DOCUMENT RESUME

ED 029 094

VT 007 477

Developing Innovative Vocational and Technical Teacher Education Programs. Final Report Of An Upper Midwest Vocational Teacher Education Conference (Minneapolis, May 13-15, 1968).

Minnesota Research Coordinating Unit in Occupational Education, Minneapolis.

Pub Date 13 May 68

Note-104p.

EDRS Price MF-$0.50 HC-$5.30

Descriptors-*Conference Reports, Educational Problems, Innovation, Models, *Program Improvement, Speeches, *Teacher Education, *Teacher Education Curriculum, Teacher Improvement, Teacher Qualifications, Teacher Role, *Vocational Education Teachers

Identifiers-*Upper Midwest Vocational Teacher Education Conf.

The conference brought together vocational teacher educators, research and development personnel, state department vocational staff members, and vocational school directors from Iowa, North Dakota, South Dakota, and Wisconsin, to consider potential directions for change in teacher preparation. Conference objectives were: (1) to stimulate participants to evaluate existing systems for preparing instructional personnel in vocational-technical education, and to plan for new improved programs, (2) to provide participants with information and opinions on goals and competencies for today and tomorrow, teacher education models, legislation, problems and issues, and proposed systems and programs, and (3) to explore the desirability and feasibility of further cooperative activities in the region. Complete presentation papers and a rationale for selection of the presenters are included in the document. Nine individual presentations are included, and ideas evolving from the resulting group discussions are outlined according to needed changes, problems in meeting future needs, areas of agreement on need for change, current projects and ideas. An evaluation of the conference is also included. (FP)

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FINAL REPORT
OF AN
UPPER MIDWEST VOCATIONAL TEACHER
EDUCATION CONFERENCE

DEVELOPING INNOVATIVE VOCATIONAL TECHNICAL TEACHER EDUCATION PROGRAMS

Minnesota Research Coordination Unit
in Occupational Education
University of Minnesota, Minneapolis, Minnesota

VT007477

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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FINAL REPORT
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EDUCATION CONFERENCE
(Minneapolis, May 13-15, 196

DEVELOPING INNOVATIVE VOCATIONAL AND TECHNICAL TEACHER EDUCATION PROGRAMS.

MARY KLAURENS
Project Director

May 13-15, 1968

Thunderbird Motel
Minneapolis, Minnesota

Conference Staff

Administrator: Dr. Jerome Moss, Co-Director of Minnesota Research Coordination Unit in Occupational Education

Project Director: Dr. Mary Klaurens, Assistant Professor of Distributive Education

Advisory Committee:
Dr. Richard Ashmun, Assistant Professor of Distributive Education
Dr. Ray Price, Professor of Business Education
Mr. Robert Van Tries, Assistant State Commissioner for Vocational Education
Dr. Gordon Swanson, Professor of Agriculture Education
Dr. Robert Randleman, Associate Professor of Industrial Education
Dr. Norman Laws, Head of Department of Industrial Education, Duluth Campus
Dr. Emma Whiteford, Professor and Chairman of Home Economics Education
Dr. W. Wesley Tennyson, Professor of Educational Psychology
Dr. Howard Nelson, Professor of Industrial Education and Co-Director of Minnesota Research Coordination Unit in Occupational Education

Evaluation: Dr. Merle E. Strong, Director, Program Services Branch, Division of Vocational and Technical Education, U.S. Office of Education

Invited Participants from Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin

Sponsored by

The Upper Midwest Regional Education Laboratory

and

The Minnesota Research Coordination Unit in
Occupational Education
University of Minnesota

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THE PURPOSE OF THE CONFERENCE

The expansion and the changes in vocational education over the past few years call for review, evaluation, up-grading and re-direction of all vocational teacher-education programs. The Congress, in the Vocational Act of 1963, proposed "that all persons of all ages in all communities should have ready access to vocational education based upon individual needs, interests, and abilities." Pending legislation places increased emphasis on the necessity for an expanded and more comprehensive vocational education program for all individuals. Institutions and agencies engaged in the preparation of vocational teachers are challenged to provide instruction and training that will meet current and future needs for instructional personnel. The development of effective teacher education programs is crucial to the achievement of the goals envisioned by government, professional educators and the general public.

The Upper Midwest Regional Educational Laboratory and the Minnesota Research Coordination Unit for Research and Development in Occupational Education have both focused a major portion of their activities upon improving the preparation of instructional personnel. This vocational teacher education conference was a cooperative effort of these two agencies to facilitate planning and development of improved vocational teacher education programs in the Upper Midwest Region, and to explore the feasability of cooperative regional planning and development activities. The first step toward instituting change or improvement is providing stimulation and information to individuals who participate in the planning and implementation of vocational teacher education programs. The conference brought together vocational teacher educators, research and development personnel, state department vocational staff members, and vocational school directors to consider potential directions for change in teacher preparation.

The specific objectives of the conference were as follows:

1. To stimulate participants to (a) evaluate existing systems and programs for preparing instructional personnel in vocational and technical education, and to (b) plan for new and improved systems and programs.

2. To provide participants with the following kinds of information and opinion helpful in creating and implementing improved systems and programs: (a) Roles and competencies needed by in today + tomorrow instructional personnel now and in the future; (b) teacher education models suggested by general educators; (c) provisions and guidelines of the Education Professions Development Act; legislation, (d) problems and issues in vocational and technical teacher education, and (e) proposed systems and programs for preparing vocational and technical instructional staff.

3. To explore the desirability and feasibility of further cooperative activities in the Region, leading to (a) adopting a common general plan for preparation of vocational and technical instructional personnel.

ORGANIZATION OF THE PROGRAM

Advisory Committee

The need for the conference became imminent when a sub-committee of the Vocational Technical Education Committee of the University of Minnesota began a study of the implications of the Education Professions Development Act for vocational teacher preparation. This sub-committee, along with the Minnesota Assistant Commissioner on Vocational Education, met as an advisory committee to develop plans for the conference. The advisory committee suggested possible topics and presenters to be included in the program and formulated guidelines for conducting the conference. Members of the advisory committee participated in the conference, each serving as a chairman of a presentation session and as a leader of small group discussion sessions.

Conferees

Individuals from the five-state region (Iowa, Minnesota, North Dakota, South Dakota, Wisconsin) who are directly concerned with vocational and technical teacher education were invited to attend. Each of the State Directors of Vocational Education were asked to identify potential conferees in a ratio which would give representation from (a) teacher education programs, (b) research and development agencies, (c) state departments of education and (d) local vocational and technical programs. The recommended list also included representation from the five vocational fields of Trade and Industrial, Home Economics, Agriculture, Distributive, Office, and from Guidance services. Invitations to participate and a tentative program were mailed to 100 individuals whose names were submitted by the State Directors six weeks prior to the conference.

Suggested Topics

Achievement of the conference objectives suggested that the following topics should be treated by presentation and/or participant discussion.

1. Introduction (including purposes of the conference).

2. Nature of vocational (or occupational) programs at the secondary and post-secondary levels in the years ahead, the roles to be played by staff, and the staff competencies required.

3. Teacher education models being proposed for elementary and secondary level staff.

4. Problems and issues in developing staff education programs for secondary and post-secondary vocational and technical teachers.

5. Proposals for secondary and post-secondary staff education programs in vocational and technical education.

6. Guidelines for utilizing the Education Professions Development Act.

7. Implications of the conference for future activities--individual and regional (Where to from here?).

Schedule and Facilities

The conference was scheduled for a three-day period beginning on Monday, encouraging out-of-town participants to arrive on Sunday evening. One evening session was held the first day to discuss the implications of four papers presented that day. Tuesday evening was left open for conferees to form their own interest groups or to allow individuals to interact on their own.

The papers presented the first day were of a more general purpose focusing on needed changes in teacher education in light of changes in vocational education and on new instructional ideas in education in general. Four papers on conceptual models for vocational teacher preparation were presented on the second day with question-and-answer periods following each paper. The third day participants were given guidelines for utilizing the Education Professions Development Act to implement change in their programs. The final sessions closed with small group discussions of planned changes and evaluation of the conference.

The conference was held in a motor hotel conveniently located to the Twin Cities airport and with excellent conference facilities. Out-of-town presenters could get from the airport to the motel within ten minutes and local participants were far enough away from their offices to give their entire attention to the conference. Meeting rooms were furnished by the motel by having a guaranteed number at planned meal functions, which were paid for in the participants registration fees. Provisions for comfortable accomodations and meeting rooms added to the success of the conference.

Presenters

Since the quality of the ideas considered by the conferees would be greatly influenced by the stimulation provided by the ideas and information brought to them, presenters were carefully selected. The U. S. Office of Education and the Ohio Center for Research and Development in Vocational Education were consulted in identifying individuals or institutions that were engaged in developmental programs relevant to vocational teacher preparation and potential directions for change. The conference advisory committee then selected the presenters to be invited. In order to help insure that the most qualified individuals could be secured, the budget was constructed to provide for expenses and honoraria. The presenters were asked to submit a copy of their papers prior to the conference in order that participants would have copies to take from the conference for reference or to share with colleagues in their own institutions. The presenters were also asked to be available at the conference for consultation at least one full day. The complete papers are given in this report and a rationale for the selection of the presenters is briefly described on the cover page of the papers.

Speaker #1: Dr. David Allen, Supervisor of Trade-Technical Teacher Education, University of California, Los Angeles, California.

Speaker #2: Dr. L. V. Rasmussen, Superintendent of Duluth Public Schools, Duluth, Minnesota.

Speaker #3: Mr. Ray Johnson, Project Director for Flexibility for Vocational Education Through Computer Scheduling, Stanford University, Palo Alto, California.

Speaker #4: Dr. Richard Lawrence, Director of National Institute for Advanced Study in Teaching Disadvantaged Youth, Washington, D. C.

Speaker #5: Dr. Lorry Sedgwick, Director of Pilot Teacher Education Program, American Industry Project, Stout State University, Menomonie, Wisconsin.

Speaker #6: Dr. Robert Randleman, Associate Professor of Industrial Education, University of Minnesota, Minneapolis, Minnesota.

Speaker #7: Dr. Albert Pautler, Assistant Professor of Education, Rutgers-The State University, New Brunswick, New Jersey.

Speaker #8: Dr. Peter Haines, Professor of Business and Distributive Education and Director of the Research and Development Center, Michigan State University, East Lansing, Michigan.

Speaker #9: Dr. Robert Poppendick, Director of Field Services, Bureau of Educational Personnel Development, U. S. Office of Education, Washington, D. C.

Conference Evaluator: Dr. Merle E. Strong, Director of Program Services Branch, U. S. Office of Education, Division of Vocational and Technical Education, Washington, D. C.

The evaluation of the conference required a consultant who was familiar with needed changes in vocational teacher preparation and a national perspective of development of teacher education programs.

DISCUSSION SESSIONS

A half-hour question-and-answer session followed each presentation. Conferees were able to pursue specific ideas in the presentation and get assistance in solving problems of interest to them.

Monday Evening Group Discussions

Conferees were randomly assigned to three small groups at an evening session following the first four presentations. Groups discussion leaders, who were appointed in advance of the conference, were asked to focus their discussion on the following questions:

I. What are the needed changes in vocational teacher education programs?

II. What problems do we have in meeting the needs of the future?

III. What are the areas of agreement on needed changes and the direction we should be going?

IV. What are you doing in your own vocational area, institution, or state that is new, successful, and serves the needs of vocational teacher education?

A summary of the ideas evolving from the discussion groups is outlined below:

I. What are some needed changes in vocational teacher education programs?

1. Better ways to identify occupations for which training should be provided.
2. Flexibility in teacher training programs.
3. More professionalism built into programs.
4. More concern with personal development of individuals preparing to be teachers.
5. Objective means for assessing teacher effectiveness.
6. Closer cooperation among disciplines.
7. Break down administrative and organizational barriers.
8. Involve teacher educators in local school planning.
9. More flexibility in teacher certification.
10. Earlier contacts with phases of teaching and learning environment.
11. Integration of content with methods of teaching in teacher education courses.
12. Transfer of Associate of Arts degree to teacher education, also legitimate area school courses.
13. Degree credit for occupational experience.
14. Stipends to enable people from industry to become certified for teaching.
15. Prepare more teachers.
16. State-wide planning in teacher education.
17. Integrate behavioral sciences.
18. Proficiency tests in content and teaching.
19. Cooperation with arts and sciences.
20. Involvement with various agencies in planning curriculum.
21. Prepare teachers to deal with disadvantaged youth.
22. Prepare teachers to provide adult education in undergraduate preparation.
23. Improve guidance-vocational education communication and cooperation.
24. Exposure to flexible scheduling in undergraduate programs.
25. Include meaningful occupational experience in teacher education programs.
26. Organize advisory committees for teacher education programs.
27. Continuing in-service teacher education programs.

II. What problems do we have in meeting the needs of the future?

1. Lack of money.
2. Lack of personnel at all levels.
3. Lack of facilities.
4. Effective recruitment and selection techniques.
5. Traditional restrictions and rigidity of institutions.
6. Credit transfer from two-year institutions and for occupational experience.

7. Keeping good teachers in the field.
8. Communication with the student body.
9. Communication between general and vocational teachers.
10. Improve vocational education image.
11. Adequate research to back up our needs.

III. Areas of agreement on need for change.

1. Inter-agency cooperation - local, state, university - task force to facilitate.
2. Better attempts to communicate with and understand the needs of students.
3. Teacher-educator exposure to world of reality.
4. Stipends for teacher-training.
5. Teachers and teacher-educators more time in business and industry.
6. Formal degree program to prepare teacher-educators.
7. Regional cooperation in teacher-education.
8. More teacher-educators.

IV. Current projects and ideas.

1. Occupational experience combined with seminars and direction on transfer to teaching.
2. Career development curriculum, application of theory of career development.
3. Video-taping work situations to be used for adult training.
4. Research fellowships.
5. Using students to evaluate each other as teachers.
6. Workshops for people teaching the same courses.
7. Professional growth week.
8. Workshops for supervisors of student-teachers.
9. Training of local supervisors to train their own teachers.
10. Elementary guidance program and earlier pre-vocational orientation.
11. Proficiency tests for vocational-technical students.
12. Statewide television courses.
13. Twelve-month contract for vocational school staff and rotate additional teacher training and occupational experience every third year.
14. Counselor-coordinator human relations training together.
15. Interdisciplinary vocational seminars.
16. Vocational teacher exchange with another school (e.g. Dunwoody).
17. Micro-teaching experiences taped and critiqued.
18. Single concept films and programmed instruction, multi-media approach, tailored to needs of student.

Wednesday Morning Group Discussions

Following the presentation by Dr. Poppendick on the Educational Professions Development Act, conferees met in two groups arranged by states. The task for the groups was to determine what steps should be taken within their states and by the region to improve and expand the vocational teacher education programs.

The outcomes of these discussions were reported in a final session on Wednesday afternoon and are outlined below.

Suggested Course of Action Discussed by Minnesota and North Dakota Group:

What avenues for further action?

1. Critical shortage of teachers
    - Develop an Educational Manpower Concept
    - Have state department identify specific school or area of shortage. Attract person from that area, qualify and return him to that school to teach
    - Identify role of teacher aides and prepare individuals for this role

2. Cooperation between schools, teacher education institutions and State Department
    - State department as a catalyst to bring groups together to develop overall plan -- Statewide plan for vocational teacher education
    - Facilitate experimental programs in teacher education, within reasonable limits
    - Statewide Teacher Education Plan

3. Recruitment of prospective teachers
    - High school cadet teaching
    - Overall publicity program utilizing all media of communication
    - Recruit through youth clubs
    - Contact G.I.'s leaving service through Defense Department - direct-mail list
    - Contact work-study groups

Suggested Course of Action Discussed by Iowa and Wisconsin Group:

1. Strive to prepare all types of people (various backgrounds) to enter the teaching profession.
2. Evaluate present programs and consider what changes advisable.
3. Wisconsin personnel plan to give consideration to the clinical school approach and internship as used in Michigan.
4. Iowa plans to look for a more practical or applied approach in teacher education.
5. Work to coordinate interdisciplinary course work for vocational teachers.
6. Conduct workshops to orient administrators to philosophy of vocational education.
7. All vocational disciplines should work together for a common philosophy to present a unified front.
8. Cooperation among states in the region should continue.

EVALUATION OF THE CONFERENCE

by

Merle E. Strong
Director, Program Services Branch
Division of Vocational & Technical Education
U. S. Office of Education

The conference was conducted by personnel in the College of Education, University of Minnesota, supported by funds made available from the Upper Midwest Regional Laboratory. The cooperative effort between vocational education personnel and the Upper Midwest Regional Laboratory is to be commended and represents one of the early examples in the Nation of involvement of a Regional Laboratory in the specific problems of vocational education.

Participants numbered approximately 50 who were leaders in teacher education in their respective service fields in the five States in the region.

Objectives of the Conference

Basic to the evaluation of any conference is consideration of the appropriateness of the objectives followed by evidence and judgement on the degree to which objectives are reached. Following are the objectives of the conference as spelled out in the proposal:

1. To stimulate participants to (a) evaluate existing systems and programs for preparing instructional personnel in vocational and technical education, and to (b) plan for new and improved systems and programs.

2. To provide participants with the following kinds of information and opinion helpful in creating and implementing improved systems and programs: (a) Roles and competencies needed by instructional personnel now and in the future; (b) teacher education models suggested by general educators; (c) provisions and guidelines of the Education Professions Development Act; (d) problems and issues in vocational and technical teacher education, and (e) proposed systems and programs for preparing vocational and technical instructional staff.

3. To explore the degree in which the various teacher education models (systems) presented find acceptance, and the feasibility of further

cooperative activities in the Region. These discussions might subsequently lead to: (a) adopting a common general plan for the preparation of vocational and technical instructional personnel, (b) coordinating the detailed development of each aspect or phase of the plan, and (c) coordinating the implementation of the plan.

One concerned with the development of professional personnel could not question the appropriateness of the objectives as stated, except perhaps that they are a little ambitious for a three day conference. The conference certainly addressed itself to what can be considered as a crisis in education, that of properly preparing adequate numbers of educational personnel to give leadership to the development and implementation of needed vocational education programs.

Evaluation

Setting - The setting and facilities were ideal. The Thunderbird Motel was readily available to the airport, providing adequate meeting facilities and was away from the distractions of downtown.

Conference Plan - The conference plan was excellent, providing for a balance of presentation, general discussion and small group activity. The technique of having conferees meet by State groups for a session near the close of the Conference addressed to next steps and implementation of ideas was very appropriate. It became clear in this conference that persons engaged in teacher education from the various service areas in many cases lack a close working relationship or even well established communication lines with each other. The conference plan stimulated understanding and cooperation among personnel from the various services. Leaders of the conference should not only be complimented for their excellent plan but for the manner in which it was executed.

Conference Content - The decision on the breadth of content to be covered is always a value judgement based on objectives to be obtained. The conference appropriately focused on the "big ideas," the stimulation of thinking on new approaches and a general sharing of experiences. While there will undoubtedly be immediate positive outcomes as might be measured by increased communication, cooperation, program change and the like, the real measure of its effectiveness is undoubtedly long range. The conferees were exposed to numerous new program ideas. They addressed themselves to a consideration of problems and approaches effecting all service areas and vocational education in general. Through this experience will undoubtedly come changed attitudes, stimulation to evaluate present practices and to try new approaches. One outcome which should be mentioned was the immediate stimulation to develop proposals for education personnel development under the Education Professional Development Act. It is reported that personnel in several States in attendance took immediate action to develop proposals.

It would not seem appropriate to attempt to summarize or evaluate the various papers presented since they will be a part of the final report. Suffice it to say that the papers and presentations were generally of high quality, appropriate and applicable to the conference.

Participant Response to Conference - Participants were provided the opportunity to express their views about the conference on an evaluation form provided. Responses were quite favorable including responses to several open end type questions.

One of the objectives of the conference was to stimulate participants to assess their own programs and give consideration to possible improvement. All participants indicated that this objective had been accomplished. Reacting on a three point scale (none, some, great) approximately one-half indicated "great". All but one participant completing the questionnaire indicated that they had received new ideas for introducing specific changes into their programs.

All but one person indicated that the conference had satisfied, atleast to some extent, the purposes which had compelled them to attend, with more than half indicating their satisfaction by checking the highest item on the scale relating to their degree of satisfaction.

Several conferees indicated that they had hoped their own occupational area would have been discussed to a greater extent. This is perhaps a predictable reaction, however, this was not the focus of this conference. It undoubtedly does indicate that need is felt by many teacher educators for indepth discussions by service areas.

Recommendations

It is recommended that:

1. Consideration be given to replicating this conference throughout the Nation on a regional basis.
2. That encouragement be given to the Regional Laboratories to work with a key vocational teacher education institution in each area of the country to develop and fund such a conference.
3. Such a conference be limited to 5 or 6 states and that every effort be made to get full participation from each state including a balance of individuals from the various service areas.
4. Consideration be given to calling on expertise of staff at the University of Minnesota in planning such conferences.

COMMENTS BY THE PROJECT DIRECTOR

A total of fifty people attended the conference with average attendance at each session of thirty-five. Representation by some institutions and three of the states was limited by lack of funds for travel expenses and the number of other conferences going on near the same dates. Individual invitations to the conference and encouragement to participate depended on the support of State Directors and how they perceived the need for people in their states to attend. It was the intention of the conference to facilitate more local school-state department-teacher education institution cooperative planning, and this was accomplished for the States which were well represented.

The conferees generally agreed that the conference had achieved its objectives and had given them valuable help in thinking through some directions for change in the teacher education programs with which they were associated. A number of the conferees later submitted proposals to the U. S. Office of Education for E.P.D.A. funding. The deadline for submitting proposals fell within a week following the conference which was unfortunate timing; however, the conference was scheduled before the proposal deadline had been established. The conference served proposal writers in getting the proposals in proper form and clearing up problems in design.

In evaluation forms completed by participants at the end of the conference, several suggestions were made regarding examination of model programs in specific occupational areas. It is possible that there is a need for teacher education conferences on specific service areas, however this conference attempted to bring the service areas together to find some concepts or principles that could be applied in various fields.

Among those who completed the evaluation forms there were fifty specific ideas which they intended to explore for possible use or which they considered important. Those mentioned by more than two people are listed below:

1. Directed occupational experience
2. Flexible, individually oriented, teacher education programs and flexible certification
3. Clinical school, internship programs
4. Preparation of teachers for disadvantaged youth
5. Local school, state department, institution cooperation
6. Early and continued exposure of teacher candidates to learning situations
7. Personal development of individual teacher candidates
8. Stipends to encourage personnel development
9. Individual study programs and learner centered instruction

While it may be difficult to evaluate many long range outcomes of the conference, there have been several follow-up activities which may have been facilitated by the conference. At the University of Minnesota steps have been taken to do more statewide planning of teacher education programs and there is evidence of more cooperation in planning among the vocational service areas. Representatives of the Duluth E.S. '70 Pilot School Project were invited to speak to other groups on campus, and teacher-educators are showing some interest in the implications of E.S. '70 concepts for vocational education. Plans have been developed for improving various phases of the vocational teacher education programs. More attention is being given to preparation of teachers for inner city schools and meeting the needs of disadvantaged youth. In curriculum projects there is increasing emphasis being placed on behavioral objectives and performance criteria, with efforts to train in-service teachers to focus their instruction on development of relevant occupational competencies. The conference was successful in stimulating participants to consider potential directions for change.

Recommendations

1. Future regional conferences should be considered as a way of getting state department, local schools, research units and teacher education institutions together for communication and cooperation on projects of common concern.

2. New developments in education in general, in teaching and learning ideas, and in Federal legislation to facilitate program development should be communicated to those who are responsible for vocational teacher preparation.

3. Conferences which depend on representation from several states and a number of agencies within the states should be scheduled at times when adequate numbers may attend. A survey of participation interest would indicate feasibility of planning a conference for a particular time.

4. Personnel from the U. S. Office of Education should be invited to participate in the conferences because of their insight into the development of programs across the country, and their knowledge of issues and trends.

Vocational Education In the Years Ahead
And the Preparation of Teachers

A paper prepared for

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: In order to generate interest in change and growth it seemed important that conferees needed to be aware of the current status and trends in vocational education. Dr. Allen in working with Dr. Melvin Barlow, who was director of the Advisory Council on Vocational Education, was qualified to present the issues and problems of vocational education and to report the highlights and recommendations of the 1968 Advisory Council report.

by David Allen
Trade-Technical Teacher Education
University of California
Los Angeles, California

We meet today with a common bond--our interest in and concern for vocational education. This union of purpose provides a base for amity among colleagues. I hope that my presentation will establish a dialogue between friends. Emerson wrote, "A friend is one before whom I may think aloud." During the next hour I want to think aloud with you.

Although my presentation is concerned with the years ahead, I have no gift of prophesy nor do I possess the powers of an oracle. Being mortal, with limited hindsight, frequently in error but never in doubt, all I can do is describe trends and tendencies and attempt to "guesstimate" their effect on the future. Trends are indicators of the path taken by progress. An assessment of the progress of vocational education since the enactment of VEA '63 was the mission of the Advisory Council for Vocational Education.

In reviewing the data based on the work of the Advisory Council for Vocational Education, 1968, eleven achievements and nine limitations in teacher education are cited.

The achievements are:

- Teacher educators during the half century of federally reimbursed vocational education have maintained their enthusiasm for excellence in teaching.
- Teacher training programs and recruitment techniques in the past have been capable of keeping programs staffed with competent and well prepared teachers.
- Despite the lack of scholarships, stipends, or fellowships to support the teacher and his family, hundreds of individuals have earned one or more degrees in summer school or in evening teacher training programs.
- Teacher educators have demonstrated both capability and enthusiasm in carrying out research projects and curriculum material development as a result of the special funding under P. L. 88-210.
- Teacher training institutions have contributed greatly to the success of the National Leadership Development Conference conducted during the past 10 years which has resulted in many administrators having received their initial training in administration prior to advancement.
- There have been some exemplary programs at teacher training institutions wherein two or more services have worked together to provide basic preparatory courses.
- Experimentation with cooperative type education, internship, and the like have been undertaken with extremely limited budgets. There is the need to magnify these efforts and to continue the expansion of pilot projects to multiply the effort in developing new teaching personnel.
- Some states have done a very commendable job of providing in-service and pre-service training for teachers through itinerant teacher trainers, workshops, institutes, and summer programs.

- Certain states have provided the courses necessary and the workshops, conferences, and short intensive training important to teachers in curriculum planning and instructional material development and use.
- Leadership training provided by the U. S. Office of Education has benefited many administrators.
- States are showing unique capability in devising ways to staff teaching positions where teacher shortages exist. Studies of the more productive techniques should reveal patterns for use on a long-term basis and with a desired degree of productivity for the effort expended.

The limitations cited are:

- Financial assistance for teachers in undergraduate and graduate study has been in short supply, which keeps many interested persons from reaching the optimum of their capability.
- Proliferation of teacher education programs among universities and services has emaciated rather than enriched course content, staffing patterns, and resources.
- Expenditures for teacher education have not been ample enough to provide services to part-time teachers, persons working with students with special needs, other ancillary service workers, and teachers who need updating in service.
- Certification requirements have continued to reflect provincialism and have lacked the universality needed for a broadly expanded national program of vocational education.
- Teacher educators have not been developed in sufficient numbers nor in keeping with an orderly plan that encompasses research, curriculum theory, philosophy, leadership skills, and evaluation techniques.
- Sources from which teachers have come have been rather narrow. Enlarged and innovative practices will be required to keep recruitment abreast of demands.
- Federal funding has not been available to provide needed stipends, fellowships, and many additional resources for teacher education.
- Broad cooperation between business and industry and teacher educators has not taken place. New approaches, enlarged organizational plans, and a systematic approach should be financed and implemented.
- There has been a continued development of teacher education on the basis of occupational categories rather than a concentration of programs serving all services on one campus. This practice does not foster the concept of a broad view of vocational teacher education.

These achievements and limitations identify five major elements that have a significant bearing on the development of vocational teacher education. These elements are: (1) sources of vocational teachers, (2) flexibility in state certification, (3) provisions for in-service teacher education, (4) selection and upgrading of teacher educators, and (5) emphasis upon vocational teacher education. Each of these elements is the resultant of a number of trends. Each of these elements will play a major role in teacher education during the ensuing years. Each must be considered and resolved if a dynamic teacher education program for vocational education is to be achieved.

Closer examination of these five elements reveals the following:

1. Sources of Vocational Teachers

Current practices for obtaining teachers consists of either obtaining teachers who are taught in the baccalaureate program in which they obtain skills and knowledge appropriate for the occupation for which they will be training their students, or recruiting teachers from occupational areas who are certified for service by the State and who are required to complete professional education requirements prior to teaching or on a postponement of requirement basis. Teachers from the baccalaureate program frequently supplement their formal training with some kind of work experience in the occupational area or in a related field. In recent years, some teacher training programs have combined work experience with the baccalaureate program. Individuals entering vocational education teaching are generally screened and selected on their competency in the subject area they plan to teach. In a few states this competency is measured by proficiency examinations; most states however, have established criteria that the individual must meet prior to acceptance into teaching.

In reviewing data related to vocational education, several trends become apparent. Enrollments in vocational education programs increased from 164,186 in 1918 to 6,880,000 in 1966. (See Table I for more detailed enrollment figures.)*

TABLE I

NUMBER OF ENROLLMENTS IN VOCATIONAL PROGRAMS

YEAR	NUMBER	PERCENTAGE INCREASED
1918	164,186	-------
1928	858,456	423%
1938	1,810,082	111%
1948	2,836,121	57%
1958	3,629,339	28%
1962	4,072,677	12%
1963	4,217,198	4%
1964	4,566,390	8%
1965	5,430,611	19%
1966	6,880,000	27%

*This continual increase in enrollments was a slow but steady process until the enactment of VEA '63.

Table 2 displays the year in which a one million enrollment increment occurred. (See Table 2 for more detailed enrollment figures.) Between 1918 and the passage of VEA '63, a one million enrollment increase occurred at average intervals of eleven years. Between 1962 and 1966, there was a one million increase, and again there was a one million increase between 1965 and 1966.

TABLE 2

YEARS IN WHICH ONE MILLION ENROLLMENT INCREMENT INCREASE OCCURRED

YEAR	MILLION	NUMBER OF YEARS REQUIRED FOR INCREASE
1918	1/200	------------------
1931	1	13
1939	2	8
1949	3	10
1962	4	13
1965	5	3
1966	6	1

These enrollments are coupled with a corresponding increase in numbers of vocational education teachers. (See Table 3 for more detailed enrollment figures.) There were over 124,000 teachers in 1966. A conservative estimate for 1975 is 350,000 vocational teachers. This is an increase of over 150 per cent during a ten-year period.

In 1966, there were 2,145 teacher educators (905 full-time and 1240 part-time) located in 260 institutions in the Nation. There were 56 teacher educators located on State staffs. These teacher educators were working with teachers representing nine occupational categories.

The projected trends emphasize the need for securing qualified individuals as teachers for vocational education programs. The satisfactory operation of vocational education is contingent on the availability of properly qualified teachers. Insistence on high qualifications for teachers in the program of vocational education must be maintained, but obstacles resulting from biases or tradition need to be removed.

TABLE 3

NUMBER OF TEACHERS AND PROJECTIONS

YEAR	NUMBER	PERCENTAGE INCREASED
1918	5,000	------------
1938	30,000	500%
1958	70,000	133%
1964	85,000	21%
1965*	109,000	29%
1966	124,000	14%
------------	------------	------------
1970	213,000	76%
1975	350,000	64%

Flexibility of teacher recruitment and education, based upon principles for conducting quality vocational education programs, is not synonymous with the reduction or elimination of standards. Irrespective of the arrangements for selecting teachers, it is imperative that modifications be made in order to enlarge the source area from which teachers are selected. These modifications must permit the utilization of qualified individuals who can contribute to the instructional processes in vocational education. The use of part-time instructors, consultants, teachers from related subject-content areas, are a few of the possible adaptations. Various schemes for teacher preparation must be attempted, evaluated, and refined.

2. Flexibility in State Certification

Present practices for vocational teacher certification vary from state to state. Variations also exist by instructional category as well as by instructional grade level. There is full reciprocity between only a few states. Degree requirements, work experience, and professional education courses for certification have as many variations as we have states in the nation. Although the general growth of enrollment in vocational education indicates that the service to people is increasing; nevertheless, vocational education is reaching only one-fourth of the students in secondary schools. In spite of the most rapid growth in post-secondary institutions, vocational education has not provided enough offerings for the culturally and economically disadvantaged, and the hard core unemployed. Some administrators indicate that certification regulations curtail these needed services. These complaints may not be valid; they may be used as an excuse for not providing broader vocational offerings. It is imperative however, that unrealistic certification requirements should not serve as barriers to providing vocational education. Principles of certification will be reinterpreted to meet the needs of a variety of new teachers who will service vocational education programs. These interpretations will provide flexibility and reciprocity within as well as among states to achieve instructional excellence without damaging desirable standards.

3. In-service Teacher Education

There has been a continual increase in the number of in-service education activities. The number of teachers following initial employment, who participate in in-service education activities has increased. These in-service activities are generally concerned with the updating of a teacher's technical knowledge and/or teaching skill. Many new situations are faced by vocational teachers as a result of technological change, socio-economic influences, the increased range of abilities and interests of groups served, and advancement in instructional media. These are but a few of the factors that necessitate an ongoing in-service program for vocational teachers. Such in-service programs include a variety of conferences, workshops, seminars, courses, projects, and other organized efforts covering a diversity of subject-matter areas, or designed for leadership development. These in-service activities operate throughout the year. Interstate in-service programs have increased since the passage of VEA '63. A university located in one part of the Nation may conduct an institute on its campus as well as additional institutes on a number of additional university campuses in the Nation.

Direction for in-service programs should originate in the State office responsible for vocational education. The direction should provide a constructive master plan that those responsible for teacher education can follow and adopt as a regular effort in their teacher education activities. In-service teacher education will become an ongoing process for all vocational teachers during their teaching careers.

4. Selection and Upgrading of Teacher Educators

The states clearly have the responsibility of providing for the preparation of teachers of vocational subjects. In most states, the State Board for Vocational Education, through its representatives, exercise some type of supervision over the work of institutions preparing teachers of vocational subjects. In many states, colleges and universities are contracted to provide vocational teacher education. Some states assign to the vocational education State staffs the responsibility for conducting teacher education programs. Regardless of the method employed and the merits of one system of teacher education compared with another, it is imperative that teacher educators have qualifications and training that provides an optimum teacher education program.

Suggested areas of preparation for future teacher educators, in addition to having leadership ability, include skill in research methodology and ability to implement research findings into teacher education programs; advanced study in curriculum theory and development, advanced study in the instructional learning process, evaluation skills in assessing student progress as well as overall educational programs; and a depth study in philosophy of American education and vocational education.

Future programs needed for developing potential teacher educators will be supported by fellowships and scholarships as well as salary adjustments through intern programs, national meetings, institutes, and seminars. Evidence of these forthcoming activities can be found in pending legislations and conferences sponsored by the U. S. Office of Education, Division of Vocational and Technical Education.

5. Emphasis Upon Vocational Teacher Education

From the inception of vocational education there has been an insistence on suitably qualified and trained teachers for vocational educational programs. Through the years, emphasis and support for teacher education has varied. For example, in the report of the Panel of Consultants on Vocational Education, 1963, teacher education was discussed along with other topics ranging from occupational information to youth organizations, in a chapter entitled, "Areas of Service", whereas, the Advisory Council on Vocational Education, 1968, devoted to teacher education an entire chapter of its report.

When vocational teacher education was in its infancy, rugged individualism was a characteristic of the time. With the establishment of occupational categories, individualism was maintained. After the mid-point of this century, an ever-increasing concept of cooperative efforts between individuals and groups has prevailed. Evidence of these manifestations can be seen in changes in our social order, research teams in industry, and team teaching in our schools. This concept of togetherness in vocational education, with the common purpose of providing service to people, is resulting in the development of vocational teacher education programs that combine the commonalities of the various occupational category teacher education programs and at the same time allowing for special emphasis through separate courses in those elements that are unique to each category. Through fruitful collaboration within the vocational education family, as well as with our colleagues in the educational community, excellence in teaching can be achieved. The future thrust in vocational teacher education will be a program for vocational teacher education. These new vocational teacher programs will relate with other educational programs and will utilize numbers of ways of giving those in training an opportunity for actual on-the-job instructional experiences; such as participating in internship, developing teaching aids, working in cooperative programs, etc..

Several projected actions must transpire if vocational education is to fulfill its mission. Stipends to assist teachers must be provided for both pre-service and in-service programs. Regional teacher education centers must be established to service a number of states. National proficiency tests must be developed to ascertain occupational competencies of prospective teachers. Instructional aids must be developed, both locally and at a regional center, for dissemination to the various states. Funds must be provided for student teacher supervisors' periodic conferences, workshops and other related activities. There needs to be a plan for reimbursement that would assist school districts to employ some teachers prior to their teaching terms, so they may have time for professional preparation before going into the classroom. The national leadership for teacher education in the U. S. Office of Education must be strengthened.

Through a continuous cycle of activities consisting of conceiving, planning, operating, evaluating, and redesigning a vocational teacher education program, providing effective teachers can be achieved. These new teacher education programs must develop teachers who do not act as passive agents in dispensing prepackaged bundles of skill and information. Our future teachers must possess the abilities to play an active part in the learning interrelationships between themselves, their students, their content, and instructional processes. They must have flexibility in their instructional patterns, have a sensitivity to the changes in their subject content and skill in continually adapting appropriate occupational changes to their curriculum.

Continual change is a way of our life. Teachers and teacher educators must realize that a course or a program once worked out cannot be enshrined, never to be altered. Charles F. Kettering stated, "The main reason for unpleasant surprises which we discover each day lies in the fact that we spend so much time walking backward watching with pride where we have come from." One of your major objectives for this conference is to plan for improved vocational teacher preparation. The opportunity for improving vocational teacher preparation is now! Quoting Shakespeare:

> There is a tide in the affairs of men
> Which, taken at the flood, leads on to fortune
> Omitted, all the voyage of their life
> Is bound in shallows and in miseries.

Our affairs in vocational teacher education are at the flood. We must strive forward. Inherent in our vocational teacher education program must be the element of flexibility and a willingness to experiment, thus permitting the development of unique programs. Your deliberations during the next few days and your efforts in the years ahead will greatly assist the advancement of vocational teacher education.

The Pilot School Program and Implications For Vocational Teacher Education

THE FUTURE IS OBSOLETE

A Paper Prepared For

The Invitational Conference
On Vocational Teacher Education in
the Upper Midwest Region

May 13-15, 1968

Rationale: The Duluth, Minnesota schools are engaged in an experimental program under the U. S. Office of Education's program "Educational Systems of the Seventies" (E.S. '70). Two of the major emphases in this program are on the integration of vocational and academic education and on individualized instruction. The question arises as to what kind of preparation is needed for teachers in programs of this type, or in schools using flexible modular scheduling, which has similar characteristics. Dr. Rasmussen was qualified to talk about E.S. '70 and changing roles of teachers in this new system.

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THE FUTURE IS OBSOLETE

As I approached the preparation of these remarks, which will deal very largely with a proposed model for the American high school of the future, I was made keenly aware of the fact that "future" is rapidly becoming an obsolete word. I mean to suggest that the word should no longer be part of the active vocabulary of the educational planner. Today's reality is such, that at the precise moment our most advanced minds conceive a valid new concept, at that precise moment the time for implementing that concept will have arrived. I mean to suggest that there is no "lead time" in education. I mean also to suggest that by the time our finest brains detect a social ill to which an educational solution can be applied, that very social ill will have struck, long since, with deep and destructive roots into the soil of our American culture. For these reasons, the educator's most refined energies must be expended in the context of now. He must no longer think of "the future" as a place where he constructs a model, based on his best speculations, of the kind of total educational implement which will result from his reasoned and diligent efforts in the present.

The foregoing is an effort to defend the rigidly non-Utopian nature of the model high school I will attempt to describe. That description, along with the implications for vocational teacher-education which I shall enumerate, is based on certain assumptions which I hope we all hold in common. They are the assumptions which under-lie the developing philosophy of the ES'70 planners. They are, for the most part, broad and general reactions to our society in general and to education in particular. Before outlining these assumptions, it would be well to say a word about ES'70 itself.

Described with maximum brevity, ES'70 -- an Educational System for the 70's -- is an experimental program comprised of a network of seventeen school systems in fourteen different states. The original impetus came -- slightly more than a year ago -- from the United States Office of Education, and that agency selected the participating systems on the basis of innovative accomplishments, with considerations of geographical distribution and -- inevitably -- political considerations as additional factors in the selection process. These school districts include: Bloomfield Hills, Michigan; Baltimore, Maryland; Brethitt County, Kentucky; Philadelphia, Pennsylvania; Quincy, Massachusetts; Monroe, Michigan; Portland, Oregon; Mamaroneck, New York; Atlanta, Georgia; San Antonio, Texas; San Mateo, California; Duluth, Minnesota; Boulder, Colorado; Willingboro, New Jersey; Fort Lauderdale, Florida; Mineola, New York; and Houston, Texas.

These schools, along with the state commissioners for the states represented, have worked out an organizational structure to initiate the project, and the strongest possible emphasis has been placed on establishing a workable partnership including the local, state and federal levels of authority. Their goal -- to create a prototype of the American High School of the next decade -- will be approached through a five-year plan which will require a total investment of roughly three hundred and fifty million dollars. I think I should first outline those assumptions which comprise the context in which ES'70 planning is going forward. If I follow this with an imaginative comparison of the traditional high school and its hoped-for ES'70 counterpart, I'm sure that you will have an adequate overview. Many of the implications for teacher-education will be apparent of themselves, and I will summarize a number of others in my closing remarks.

The primary assumption is that a sense of real urgency prevails, and that all of us are responsive to this urgency and aware that we live in an era of unprecedented and dynamic change. The striking statistics of our modern revolutions -- in cybernetics, in production technology, in learning theory, in the social fabric itself -- these need not be reviewed here. And, the increasing focus on education as the only agency capable of guiding these revolutions to positive outcomes is equally evident.

So urgent is the charge to America's educators that they cannot afford to wait until the public at large senses the urgency. Knowing what they know, they must act now, and act effectively.

Schools can either reflect society or attempt to change it. Our schools today are failing even to offer an adequate reflection. Whether or not they can become effective agents of social change is an open question. But educators would do well to assume that the responsibility for a really epic attempt is theirs. Posterity will undoubtedly make that assumption.

In striving to define the ES'70 high school, it would seem relevant to attempt some description of the society it will serve. This is a tricky game, as well as a speculative one, and the only check-rein we have for our imagination is our sense of present reality along with whatever logic we can apply to present trends in predicting their future outcomes.

But surely there will be unanimity on a few of the characteristics of that society of the immediate future. We know that 5% of the population will produce 90% of the necessities. We know that work-days and work-weeks will be shorter. We know that people will enjoy -- or at least have -- vast amounts of leisure time. We know therefore that we must educate for the creative use of leisure. We know that more leisure, when blended with more exposure to mass communications, will yield a population more generally informed in greater depth. We can project that the population will seek more involvement, more active participation in policy and decision making than ever before, at every level of human endeavor. We must assume, therefore, that tomorrow's high school student will need preparation for a creative role in a fluid society, rather than a job in a static one. Within that role, his actual job designation will change several times in his working career. Obviously then, we must teach him how to learn, so that he can handle the necessary transitions his future will impose.

We can extrapolate that tomorrow's human being will be more aware of the world of values in which he lives, and less involved in the world of practical necessity. To prepare him for this kind of orientation, his education must be truly liberal in the traditional sense of that word. At the same time, however, his will be a world of depth-involvement in real events, and he needs a strong and detailed sense of the realities of his environment.

As a role-seeker, rather than a job-and -wage candidate, tomorrow's student needs to know a great deal about himself, including some clear awareness of his own potential. He should understand that certain qualities of character which can be acquired, can compensate for certain deficiencies in ability, which perhaps cannot. His formal education should carry him outside the school building much of the time, for real-world experiences which will sharpen his sense of the relationship between himself and the external world. Nothing less can even begin to prepare him for the adult world he will inherit.

Many interpreters of our time believe that all of our technical advances are simply extensions of our own human persons and personalities. To the extent that this is true, to the extent that media are the extensions of man as McLuhan would have it, to that extent, then, the various media, as soon as they become operational, immediately assume an enormous, an almost exaggerated reality, and exert a tremendous force on the society in which they operate. In other words, a new medium of communications immediately becomes "as real as your own hand." Educators, it would seem, have failed to recognize this immediacy of impact. They have assumed they could let decades pass while they contemplated new techniques of communication, new methods of information storage and retrieval. In fact, their response should be in terms of months rather than decades, and ultimately the schools should be among the first institutions to apply new media and new media techniques. We are assuming this kind of avant-garde position in media technology for our future model high school.

Let us remember, as we urge that the school of the future must not be a school that lives in its past, let us remember that the high school student, today or tomorrow, is a creature who lives in one vast and compelling present. He responds to the urgencies of his passing moments, and these include the urgent message of total involvement in everyone's affairs that his environment bombards him with. Mass consensus-taking is occurring, all the time and spontaneously in our culture, and this consensus most definitely includes the high school student with his dawning awareness of his own political and economic role. He is, in short, inundated with reality and responsibility during a great portion of his non-school hours, and his school must meet the challenge with an equal sense of reality and responsibility in establishing instructional methods and objectives. We must remember that with his new economic power, his new effectiveness as a creator of public taste, his new interest in the dynamics of social change--in all these ways and more, the high school student is already a citizen, and must be nurtured accordingly.

If "childhood's golden years" no longer include the high school experience, then the fact must be faced without sentiment. Today's young people have fewer illusions than any generation that preceded them. They know well enough that the world is a serious, often a cold and sometimes a harsh place. They are ready for reality. They are, in fact, demanding more reality from their schools.

The ES'70 school must give that reality to them, effectively communicated, and in terms relevant to their own experiences and expectations.

These assumptions, then, constitute the intellectual soil from which the ideas of the ES'70 planners are growing. They have grown with fair rapidity these last twelve or fourteen months; one begins to see just how the twig is bent, and it should be possible to speculate with some accuracy about the general ecology of the plants that will emerge.

I have said some words about the significance of modern communications media; I'd like now to suit my actions to those words. With the help of this tape recorder, I hope to place a description of the ES'70 model in counterpoint with my own remarks about the high school of the present. These comments and reactions are all based on an outline of the ES'70 model which will be presented at San Mateo later this month. I have selected only a small percentage of the features of that outline for this demonstration, and I hope I have selected some that may have direct relevance for this conference.

I will be the voice of tradition; the tape-recorder will respond in the person of a typical student at ES'70:

TRADITION: The proper place for schooling is the school-house; any educating that really matters takes place in the classroom.

ES'70: My school is more like my office or my headquarters. I'm there half a day, and I use that time to get organized, to take in more information, to digest and re-examine the data I have, to get advice from others more experienced than myself, and to practice some skills that I need. Then I go to one of my Work Experience sessions, and find out that I've still got a lot to learn. I never have any "homework" as such -- I do my school work at school, which seems like the logical place to do it. I spend at least half of my formal learning time outside of school, learning from experience.

TRADITION: Of course actual work experience is valuable, but the student can get this through summer and part-time jobs. In the high school, courses such as auto mechanics for those not of college-level ability--are an adequate offering.

ES'70: I like my Work Experience activities because they're related in a general way to my career planning, and in a specific way to the course-material at school. I can see that my instructional objectives--which I helped to choose myself--are related to broad clusters of occupations. When it comes time to choose a career or a college or a technical school, I've got a lot going for me.

TRADITION: By the time a student reaches tenth grade, he should be ready to choose the right educational track. Our curriculum is geared for decision-making at that point, and the student who's indecisive will have problems later on.

ES'70: It's really hard to decide about the future, so I'm glad no one's rushing me. I can graduate, and then decide about going to work or entering college. Or, I can take my time here until I'm ready to graduate. Anyway, graduation is just a ritual. I'm eligible to graduate the minute I get accepted into a post-high school institution, or I'm eligible to graduate the minute I get accepted for a job.

TRADITION: The lecture and the text book are the mainstays of education, and the teacher's proper role is as the prime source of information.

ES'70: The teachers I like best are something like the foreman on a job--a kind of "educational trouble-shooter." That's what they're supposed to do--help you to take responsibility for your own learning, steer you to the right tool. Once in a great while we have what you might call a lecture, and it's interesting for a change, but of course it can't match the efficiency of films and tapes and TV and computer retrieval. A teacher is great to have around when you really get hung up on an idea, or just can't crack a problem--and sometimes when you have personal problems. I've always said you learn more just talking to teachers than you ever could listening to a speech. And since all the vocational teachers have had lots of real work experience, their advice counts when they counsel you on choosing a career.

TRADITION: The school-year's traditional rhythm should not be tampered with. There is something essentially fitting and natural about courses that begin in the fall and with the onset of summer.

ES'70: I don't see how my education could make sense if I weren't allowed to enter or leave a course when I was ready to do so. Or even re-enter one if I thought I needed it. How else can I learn efficiently? After all, doesn't everybody just naturally have to learn at his own speed, and according to his own strengths and weaknesses?

TRADITION: Except at times of class discussion or group projects, students should work apart from one another. Among other things, this minimizes the opportunities for cheating the instructional system.

ES'70: I've learned an awful lot from other students, and I've learned the value of working with others, I've also learned that it isn't always easy; you have to make compromises, and you have to be willing to help others. At first I thought that the graduation requirement of a hundred hours of community volunteer service would be a real drag--but I ended up enjoying every minute of my community service, and learning more about the community I live in than I could have learned in any other way.

TRADITION: All subjects are equal, of course. That is, philosophically, each course has its place, and all are equally important. But it's equally obvious that it's the academic offerings that are most significant--after all, they are the training ground of our future leaders.

ES'70: I've never thought much about one course being more important or valuable than the others. After all, learning is just a sequence of problem-solving events. They cut right across any dividing lines you might set up between subjects. How could it be any other way? Everybody knows there's no one best sequence of learning for all students. The next step in a person's learning process is pretty much a matter of individual choice. How else can you learn how to learn? And what good is school these days if you don't learn how to learn?

Rasmussen: (tape recorder off)

"To learn how to learn" -- certainly that must be the minimum achievement of the ES'70 graduate. And the necessary corollary of that is that teachers must be taught how to teach. That the manner of that teaching must change dramatically is soon apparent to anyone who surveys the status quo. Setting aside the ES'70 context for the moment, I would like to summarize the shortcomings of contemporary teacher education as I see them.

First, I would point to the lack of any real correspondence between the learning theories that are offered in our teacher-training institutions and the teaching methods actually employed therein. The teacher candidate is told, in effect: "Don't do as I do, do as I say." He takes a course in Psychology of Learning, and hears many sophisticated words on the subject, but, alas, his own learning experiences are far from stimulating as he seeks his certificate.

Second, I would decry the lack of any real, "live" experience with students during the first months and years of teacher training. This should occur as early as the Freshman year. The art of teaching can only be learned by experience after all, experience in real human relationships. How many aspirants have reached their first practice teaching experience, in a junior or senior year, before learning that they simply do not have the stuff of which teachers are made?

Thirdly, there is the prevalent assumption that some such creative as "the teacher" really exists. That is, that there is a certain, single professional function called teaching. In reality, teaching is a constellation of functions, each of which demands a degree of specialization. Our teacher-educators must break down the functions and focus on them in turn: Educational organization, group work, test-writing, selection and preparation of materials, parent relationships, motivation, relating to the individual student, clerical functions -- the list is by no means exhaustive. Some of these "specialties" demand full-time specialists; all of them deserve a distinct place in the teacher's pre-service curriculum. Current debates over the proper care, feeding and utilization of pre-professionals might be simplified if we would first define the professional himself.

I could detail, too, my reservations about the four-year, lock-step accumulation of credits which constitutes a pre-service training today. I could express my dissatisfaction with the casual, contingent, sporadic nature of in-service relationships between the average school system and the average college that supplies its teachers. And in the third area of the school-college relationship, that of career mobility or advanced degree training, I could express the wish that the schools themselves and the teachers themselves might have more to say, and the universities and the state departments perhaps a little less. This is in turn related to the strong reservations I have about the conditions of professional entry and professional discipline. In education, these should come under the discretion of the working professional, as they do in the case of medicine and the law.

As a school superintendent, I learned long ago that one can't stay on the subject of teachers for very long without touching on the subject of teacher salaries. They are rising, as you've doubtless noticed. The public is noticing, too. It will be the public's mood, increasingly, to demand ever more of their teachers, since they will be asked to contribute more and more to the teacher's salaries. This may be an important positive factor in mobilizing public opinion behind the crusade for creative change and constructive innovation.

My remarks today have centered on ES'70, which is total in its scope as a frontal approach to secondary education, and replete with implications for the whole educational continuum from the cradle to the grave. Within this larger context, we have been discussing teacher education. Now perhaps we can sharpen the focus a little more, and concentrate for a few minutes on vocational teacher education specifically.

My spontaneous reaction -- a speculation, really -- is that vocational educators may be a good deal more comfortable with some features of the ES'70 model than will be their colleagues in general education. I base this speculation on the fact that vocational educators already have the strong orientation to experience that is inherent in the ES'70 model, in all areas of the curriculum. In the examples I gave earlier, the emphasis on learning through experiential means was evident I am sure. There were also, as I hope you recognized, indications that the pattern of counseling services would reflect the ongoing realities of the world of work far more accurately than is the case in our contemporary secondary schools. This emphasis on teacher-counselors with strong personal backgrounds of work experience should appear spontaneously to the vocational educator, who has long placed a high value on reality and relevance in the learning experience.

The vocational educator's emphasis on "job readiness," however, has its negative aspect. Conceived too rigidly, and too much in terms of current realities that may prove to be only transient, this emphasis could be detrimental. In other words, the vocational educator, too, must teach the learner to learn, so that he may assume responsibility for his future retraining. The vocational educator must broaden the base, not only of curriculum content, but of his creative involvement with the general educator. The old lines of demarcation must be erased, and therefore the vocational and technical educators must surrender protective attitudes toward their own empire, and resist the temptation to build separate kingdoms.

I will not offer further comments on the particular demands now placed on the vocational educator. I would choose rather to emphasize the pervasive nature of today's challenge for change, and its application to all branches of education. A recent publication of the U.S. Office of Education uses the following statement as its theme: "Never before has attention to the individual as a person been so imperative." That statement is totally relevant to the totality of education today, but it is perhaps significant that it is used to set the tone of the first report of the first Advisory Council on Vocational Education, established by Congress in connection with the Vocational Education Act of 1963.

It should be clear, then, that a vast chasm separates today's realities and tomorrow's aspirations as expressed in ES'70 planning. That dynamic changes in teacher training approaches must precede and accompany dynamic changes in curriculum and methodology is sufficiently evident. And the general tone of these remarks has been that the call for change is urgent and immediate, and that that call has already been resounding in our ears for far too long without a meaningful response from the educators of our educators. Why then, in view of the need and the urgency, has so little been happening in our teacher training institutions?

I will give the name "educational facism" to one of the besetting evils of our day. I am referring simply and directly to the notions of academic aristocracy and advanced-degree snobbery which are such an anachronism in our modern world. At a time when all of us must respond to the urgency and immediacy of a world of electronic technology, it is absurd to assume that there is anything second-class about the expertise of the technician. In the same way, distinctions between the college-bound student and any of his peers are equally archaic. Our institutions of higher learning are likely to be the last to surrender medieval notions of a feudal pecking order among educators.

We must speak, too, of power structures. Education departments have one. Public school systems have one. And the two are most dissimilar. Since it is the schools that enjoy the greater measure of autonomy, it seems inevitable that the schools must and will lead the educational charge of the future, while the colleges cling to their ivy.

I will limit myself to a third speculation about change in the education departments of our colleges--it would come a good deal sooner if the general public were aware and concerned about the incredible discrepancy between the preparation our teachers are given, and the realities of the role they must assume. Surely a gigantic public information effort is a necessary aspect of ES'70, or any other effort to motivate educational change in the necessary directions.

I am convinced that periodic in-service injections can never meet the kinds of demands for change and flexibility which are inherent in any description of the future role of the American teacher. A fifth year of pre-service training, the subject of speculation by Otto Domian and others, would simply add to the lock-step treadmill unless other and dynamic changes were instituted. No accumulation of credits, of any kind, will be of any real value until the very essentials of teacher preparation are searchingly re-evaluated.

Change, however, will come, and it will come inevitably, either soon or late. It will, happily, come about as a result of design-building by concerned and informed professionals. Or it will come, far less happily, as the result of intervention by those who pay the bills. Those who guide the destinies of our teacher training institutions will either take leadership roles in creating a new pattern of professional preparation, or they will be "bought off." In the latter case, they will retain rank and tenure perhaps, but they will forfeit any claim to real participation in forging the destiny of American education.

If ES'70 is anything, it is an attempt to structure a model of a school designed to take a student, fortify his self-conceptions in positive terms, motivate him with successful learning experiences which are meaningfully relevant to his life as he is living it, instill in him the techniques of life-long learning under his own direction, and somehow, at the same time, make the experience--if not downright enjoyable--then at least stimulating, engaging and involving. Our task, perhaps, is a little like that of the soap manufacturer in relation to dishwashing--we must try to make education "almost nice."

Many change agents must be brought to bare in this effort, but ultimately, those who supply the dollars will be the ones who shake the rafters. This is most apt to happen, if there is an absence of real professionalism, at the highest level of government, and then to filter down to the local levels. Far better, I believe, for effective action to initiate locally and professionally, rather than federally and politically. The choice, obviously, is yours and mine.

At the present, I believe that ES'70 offers an effective avenue for creative joint-action at all three levels of authority--local, state and federal. But even with the greatest imaginable success in its execution, the ES'70 model will be of no value unless the will to follow its lead is manifest in the professional educators of this land, and unless the general public has the will to support those professionals during an era of unprecedented innovation. No public relations effort, no propaganda drive can invest either the profession or the public with the will to innovate. What we need is tangible evidence, promising examples of new techniques, positive manifestations of new attitudes.

Again, the word "future" has grown obsolete in the educator's active vocabulary. There is much for us to do, and we must do it now.

"The Preparation of Educational Manpower"
A Performance Curriculum

A paper prepared for

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: A number of projects and papers emanating from Stanford University, under the leadership of Dr. Dwight Allen, have received National attention and have made recommendations which many schools have adopted. Differentiated staff, flexible scheduling, performance curricula, and other concepts have tremendous implications for teacher preparation. Whereas teacher-education programs should reflect newer ideas of teaching and learning, Mr. Johnson was qualified to present some of these concepts to the conference, because of his close association with the projects at Stanford.

by Raymond Johnson
Stanford University
Palo Alto, California

The major deficiencies in recruitment, training, retraining, and retention of educational personnel can be traced to:

(1) A lack of social relevance, reflected in the means and ends of the educational system;

(2) an absence of job description, role differentiation, and opportunity for advancement for educational personnel; and

(3) the absence of a systematic institutional process for change -- a provision for keeping the educational system up to date and self-reviewing.

Social Relevance

A person of the nineteenth century could not recognize the American way of life in the twentieth century. The changes in demography, jobs, mass media, mobility, values, technology, and automation have advanced our society in geometric progression. Educational systems have been stagnation comparison. Change in the education for tomorrow must be accelerated if the gap is to be lessened.

Rather than standing by and debating what is socially relevant, the existing inequities and injustices prevailing in any part of the educational profession should be examined, or a look into the changing vocational patterns should be made. There is not a greater fantasy today than the training that is going on across the nation in vocational education.

A meaningful program to train or retrain manpower today can be stated very easily, but it is not easy to accomplish. Design a program that:

(1) A person knows, before entry, exactly what his competency will be if he finished the program.

(2) A person does not have to spend time doing or learning an experience in which he is proficient already.

(3) A person can progress at his own rate of speed and exit from the program when he has accomplished the desired performance, rather than spend a specified amount of time.

A look at what is being done in public education across the nation to individualize the instructional program shows some techniques and systems that institutions of higher education would do well to examine and doubt.

The whole idea of a performance curriculum is one that is now old and proven, and yet there are very few institutions of higher education that are seriously looking at it in terms of complete replacement of existing programs.

The performance curriculum is the outgrowth of a growing concern for individualized instruction and a hard look at what transcripts and records really tell us about learning when they express only a simple notation of a time or course requirement being fulfilled by the student.

Experienced educators point out that the emphasis of American education swings like a pendulum, first toward a content orientation and then back to a learner-centered education. While the attention given to the performance curriculum might be just a manifestation of the child-centered times we work in, this idea also has been made possible by a host of technological advances including: programmed instruction, educational television, single-concept films, and computer-generated school schedules, computer-assisted instruction, digital recall systems, etc.

We also live in a time when cherished traditions can be openly attacked. The time orientation of our whole educational system, from four years of high school to six hours of driver training, is being questioned by those who would rather see evidence of skill, performance, or measureable achievement. Educators from primary school through the graduate level of college who find a time-centered system inadequate are offering as a substitute, or solution, a number of innovative processes that can each be called a performance curriculum.

A performance curriculum is known by a variety of labels, including performance criteria and behavioral objectives. To show you that these and similar terms are in the same ballpark, I will give you a few definitions.

Performance is the execution of the functions required of a person; the exhibition of skill.

A Criterion is a standard of judging, a measure or test of a thing's quality.

Performance Criteria, then, in the education sense of the term, are the standards used for judging a number of functions executed by students while completing a required course sequence. Performance criteria are standards that take into account things observable or measureable.

A Performance Level is a proficiency level at which mastery of criteria skills, understandings, and attitudes have been met and verified through the performance criteria.

Other terms that pop up include:

Evaluative Objective, an objective capable of evaluation in terms of performance, and

Noteworthy Objective, an objective that is measureable, meaningful, and one whose intent can be communicated to another individual.

Now that some terms have been discussed, so that we have an idea of what a performance curriculum is about, I hope that you can relate the rest of the discussion to your own ideas or the things that you have been hearing about which sound like the same animal.

Let's look at some of the rationale behind the performance curriculum idea. The two underlying factors I mentioned earlier, individualized instruction and existing time criteria, are factors underlying the development of curriculum on a performance basis. These two factors, though, are not separable and must be considered at the same time.

It is common knowledge that all students learn at different rates; and it is also commonly accepted practice in traditional classrooms to teach to the average or middle ability students and hope that the slow ones will catch up and the faster ones won't let their boredom show. A performance curriculum attempts to provide a variety of individualized experiences, allowing slower students to progress at their own rate without being left behind as so frequently happens in group situations, while at the same time presenting learning situations for faster students which can include advanced materials, or branching concepts, or situations which challenge the learner as an individual. A performance curriculum also seeks to reach a broad spectrum of learning ability by differentiating the content. This method presents all students with the same concepts to learn, but uses different materials and/or assignments fitted to the student according to his ability.

Closely related to this discussion is the fact that if a course is based on a block of time, the teacher tends to be encouraged to set the tasks involved in the course in a pattern and sequence which permits the average student to start and finish the activity in the scheduled amount of time. Naturally, the more able student can perform the task in less time, and the less able can't finish the job in the scheduled block of time. This practice is evident in small blocks of time like periods, as well as in larger blocks such as semesters or years.

Often, with time as a criterion, the performance skills necessary in a course are sometimes poorly defined or ignored. Perhaps I can illustrate this as an example. Teachers have a habit, a tradition that is passed down from generation to generation, of not making up an exam until the unit, the quarter, or the year is over. Then they make up the test so that most students can pass it, which always happens. They assign grades, and carry on the same the next time. If there happens to be any notice of the differentiation between one test and a previous one given for the same block of time, the discrepancy is usually handled by saying "I have a smarter (or dumber) group this year," or, "the neighborhood is changing." The point is that no planning has gone into performance skills or abilities and two students, taking the course at different times, could have the same grade but totally different terminal abilities. Individual competency has been left by the wayside; teachers feel that time spent in class can be used as a basis for comparing the skill of individuals.

The emphasis of a performance curriculum is on performance and behavior, not on time. A student will, without a doubt, be better prepared for work if he and his employer know how much skill he has rather than how much time he spends in a shop or laboratory. This curriculum seeks to substitute something called "3 years of Typing" or "2 years of Spanish" with some criteria of performance in these subjects. Dr. Dwight Allen of Stanford University, one of the leaders in the performance criteria movement, sums it up when he says "The establishment of performance criteria is not necessarily just a curriculum problem, but a problem of determining objectives and establishing human appreciations."

The development of a performance curriculum is an educational decision. It is not an administrative one. Performance criteria can exist within the framework of any present curriculum guide. The work must be done by teachers who are experts in the field and can tailor learning to the needs of their students, relying on their own particular strengths.

Now that you have an idea of the kind of thoughts which generated the performance curriculum idea, let's look at the components of a curriculum. I am not going to get too detailed about each specific part; from time to time I will mention sources that you can refer to for the blow-by-blow description on how to put something together.

A performance curriculum can be thought of on two scales: at the course level, and at the individual concept or "package" level. These two really should not be exclusive, but they are and can be. The reason I am telling you this is because you might not be sold outright on the idea, and I don't blame you; educators have a right to be shell-shocked from the constant bombardment of "innovations" and "great ideas." But, in case you are interested, I would like you to know that you can try a piece of the package without buying the whole case. So, you can organize a course on a performance basis without having to teach each concept or unit in behavioral terms, and you can develop some units or packages without committing your entire course to the idea.

To develop a performance curriculum for an entire course, the first step is to identify the concepts or tasks which you want to teach in the course. A concept is defined as an idea that is teachable; it is identified in a manner so that it can be measured. A rough but not exclusive distinction between concepts and tasks, in case there is some confusion, is that a concept refers to something that isn't expressed by action, such as things learned in social sciences and other "academic" courses, whereas tasks are usually readily demonstrated skills, such as those found in vocational or laboratory courses.

After the concepts have been put down, the objectives of the course have to be defined. We'll spend a lot of time on objectives because this is the meat of the performance curriculum, performance criteria, or whatever you call it.

Thorwald Esbensen, from Duluth, Minnesota, is one of the big names in instructional objectives. Some of his work is carried in recent issues of the Phi Delta Kappan, and distributed by Kettering Foundation in their curriculum workshops. Esbensen says, "The purpose of an instructional objective is to make clear to teachers, students, and other interested persons what it is that needs to be taught -- or has been taught."

"A well written instructional objective should say three things -- It should say what it is that a student who has mastered the objective will be able to do; under what conditions he will be able to do it; and to what extent he can do it."

I'll discuss these three parts of an objective briefly but the best way to digest the information and learn how to write objectives is to read Robert Mager's book, Preparing Instructional Objectives. It is a kind of programmed book, it only takes about 45 minutes to go through it, and its a bible for performance enthusiasts.

We all know that mental activity can't be observed. So our objectives must contain a statement of performance, a sort of behavior that can be observed.

Fuzzy words like "know" and "appreciate" have to be replaced with terms like "write" or "draw".

Extent means an acceptable minimum standard of achievement. We all know what our minimum standards are in the classroom, we just have to put them down in black and white.

An instructional objective should not be limited to specific methods, but should be stated in terms that permit the use of various procedures. I've been working with teachers on the West Coast for over a year writing objectives, and one of the problems is that they become too specific. It is too easy to start writing a "do-it-yourself" text instead of a guide which can utilize many different methods.

A well written instructional objective will suggest how its accomplishment can be measured. Again, people get hung up on the evaluation. Teaching methodology books are full of techniques for evaluation. When writing objectives, put a variety of testing procedures in or have them available. We'll talk more about this later.

While Mager and Esbensen are good men to follow when writing objectives, the field is still in a state of development. At Stanford, we try some objectives that for one reason or another don't have the recommended three parts. So far, we don't see any great problems with those statements, but there are not many of them being written.

Dr. Jim Garvey, assistant superintendent in a district in California, wrote a sheet called Help Stamp Out Non-Behavioral Objectives. I'd like to read it to you. I think you will have a better idea about what objectives are when I'm through.

HELP STAMP OUT NON-BEHAVIORAL OBJECTIVES

What Are Behavioral Objectives?

1. Statements that define exactly what pupils are to be able to do after they have mastered the unit. The emphasis is on stating the objective in terms of definite pupil behavior.

2. They should not state what the teacher is doing nor should they describe learning activities.

3. Each statement describes something that the pupil will be able to do after he has had the learning experience and is demonstrating his achievement of the objective.

4. An objective describes an intended outcome rather than a description or summary of content for a unit.

5. An objective defines the behavior sought in the learner.

6. An objective prescribes the terminal behavior of the student

7. An objective identifies the kind of performance which will be accepted as evidence that the learner has achieved the objective.

Why Objectives?

1. It gives the teacher guidance in selecting learning procedures that will foster desirable behavioral changes in the learner. Objectives must be lucid and explicit. Teachers tend to write objectives that are ambiguous, unrealistic or unattainable.

2. The teacher can certify whether change in student behavior has occurred as a result of the student taking her course. If there is little or no change, the teacher can modify her approach.

3. It makes it easier for the teacher to cast aside the "deadwood" in her course which is not relevant or meaningful to the students.

4. It is an effort to be precise. Let's not measure the weather with a hospital thermometer.

5. It compels the teacher to look at her course and ask, "What change will mastery of this subject matter bring about in the student's behavior? Is such a change important?

6. It assures the administration that the teacher's objectives are related to the goals of the school.

7. It makes it easier for the teacher to evaluate her program. Don't be like the Texas cowboy who shot at the side of a barn and then drew the circles of the target. He aimed at nothing so he couldn't miss.

By Dr. James F. Garvey, Assistant Superintendent/Instructional Services
La Canada Unified School District

8. Perhaps Mager said it best, "If you give each learner a copy of your objectives, you may not have to do much else."

To get back to developing a course in behavioral terms; after concepts and objectives, comes methodology. A lot of thought should go into the sequence of performance tasks and behavioral levels. I'm surprised how much basic educational psychology is left out of curriculum work when it comes to methods and organization. This is also the time to keep ideas in mind like multiple teacher assignments or student teaching students. A little imagination at this stage can make the end results much more rewarding.

The last consideration is evaluation. At the course level we are only concerned with a pre-test and a post-test.

The pre-test to a course not only gives the teacher an idea of the learner's knowledge and ability, but it is also an opportunity to decide whether the student is ready to enter the course, whether he doesn't have the necessary background and should not enter the course, and whether he should not take the course but should pass the examination. A pre-test is a sound idea; for instance, if I had given one to you before my talk, I would have been able to determine whether you hadn't had enough exposure to some of the terms I use, and I'm confusing you. It is easy to see how there is carry over to the classroom and the students we meet with every day.

I mentioned that the post-test was written before the course is taught. Not only does this keep you informed of where you are going, but it is also a useful monitoring device. Dr. Don DeLay, at Stanford, has a program called CRAM, Comprehensive Random Achievement Monitoring. In this program the final exam is given the first day of the course. Now, when I say exam, I don't mean the same questions; I mean that the same concepts are tested. This first exam serves as a baseline data for every student. As the course progresses, students are randomly chosen and given the final. This data allows a learning curve for the class to be projected. It can be determined pretty accurately if the class is behind expectations or if they reach the final criterion before the course is over.

I keep repeating that a performance curriculum is meant to be individualized. The evaluation, as well as the processes, should be student oriented. I'd like to share with you some eight of Dr. Dwight Allen's ideas on individualizing evaluation procedures.

1. There should be no borderline grades. It is the teacher's duty to obtain enough data to make a clear-cut decision.

2. An optional incomplete should be offered. The student should be permitted to continue working until agreed tasks are completed, without regard to the arbitrary limits of the grading period. One of the least defensible wastes of educational effort occurs when a student fails a course and must repeat it. The "F" does not indicate how close or distant the student was to passing ; he must repeat the entire course and go over material he already has demonstrated he knows. Even less sensible is the practice of making

students repeat an entire sequence when he passed but needed a "C" or better to go on. Perhaps if the time criterion were dropped, these students could progress to the teacher's satisfaction in the next term.

Ceres High School in California has some business courses written on a performance basis. The course was written to cover the same material traditionally taught in a one year or ten Carnegie unit course. Now, it is possible for a student to get ten units as soon as he passes the final criteria or to earn as little as two or three units per year according to his performance.

3. The student should be able to retake tests and repeat projects until criteria are met.

4. There should be an assignment and test time waiver. These things should be a joint decision of the teacher and the individual student.

   I can imagine the dark, dirty, thoughts in your minds as you say "Can you imagine giving tests at different times?" "Is this guy nuts?, My kids all cheat," and so forth. Well, individualized instruction practically demands individualized evaluation, so you're stuck with one if you buy the other. But, Esbensen has developed a neat little device for practically instantaneous correction and analysis of tests, and I'm sure that more good things will appear when effort is made to tackle this problem.

5. Substitute assignments -- A student can substitute an assignment with another, usually more relevant to him personally, and more often more complex than that originally proposed by the teacher.

6. Exceptional admission - prerequisites aren't often relevant to the course. We must really examine why, in many schools, boys must take woodshop and metal shop before auto shop.

7. Retroactive grading -- A students transcript can be updated until graduation. Wouldn't this be a change if Johnny could go back and take a test in basic math and raise his grade? The transcript would be an up-to-date record of performance, not a longitudinal record of unclear achievement.

8. An audit alternative should be provided to allow the student to acquire specific skills he desires without an obligation to complete the entire course. I think that many here today audited a college course for one reason or another. It certainly seems reasonable that this opportunity should be available to students regardless of grade level.

Now, let's see what a performance curriculum looks like at the concept, "package" or unit level. First we have to identify the concept, or we may have broken a concept down into sub-concepts. A sub-concept is a small idea which can stand by itself. Sub-concepts, when considered together, make up the main concept. All of this conceptualizing is followed by the definition of objectives which proceeds the same as on the course level, except in a more limited, intense, manner.

The objectives are followed by specifications of diversified content. A real effort should be made here to enlist as much multi-sensory content as possible. Keeping with the individualized theme if we can't reach a student with a book, we should have a recording, a film, or some other alternate means available.

Next comes diversified methodology. Again, there are many different techniques documented in the literature. Some learning is best in inductive situations, other concepts are acquired more efficiently deductively.

Provisions for individual study are a part of a performance curriculum. Some of the factors here are availability of resources such as outside reading materials and films, as well as teacher availability, and space to carry on the necessary individual activities.

The last part of the curriculum is again evaluation. In addition to the pre-test and post-test found at the course level, self-tests for students should be planned. This is particularly important, as mentioned previously, for real individualized instruction to take place. Evaluation can be verbal, such as oral or written exams. Or it can be non-verbal, as with projects or displays. Lastly, evaluation can be determined by measuring interaction between students or between students and teacher. There are plenty of places to find evaluative techniques; a little experimentation will determine which suit each teacher and learning situation.

I've given you a rather quick overview of the components of a performance curriculum, both at the course level, and at the concept level. I would like to conclude my talk by discussing some examples of progress that I have been in contact with.

As I mentioned before, performance objectives are not subject to a strict set of rules. The oldest and most highly developed state of performance criteria are found in the job sheets and progress charts of vocational and industrial arts classes. At Stanford, when we got involved in vocational education, we decided to try to broaden opportunities for vocational education courses in comprehensive high schools with computer built flexible schedules. Our research included developing performance criteria in vocational areas. We found that some teachers were using performance objectives already and some that were not. Instead of writing down a set of roles for all the project schools to follow, we decided to let them see what they would do on their own. The result so far has been a variety of programs, with the greatest differences in the methods of assigning grades.

We probably all agree that grades don't mean much by themselves; many teachers either consciously or unconsciously grade with this in mind. Some of our project schools assign grades to performance levels; others have each student enter into a written contract with the teacher for a certain grade for a specified amount of work.

I can't say yet which works out best, or if any is better than the others; we are still collecting data.

The Kettering Foundation is active in the development of instructional packages which are written in behavioral terms. They are being tried by a number of experimental schools throughout the country. The Kettering emphasis is on continuous progress of the individual student through school.

Dr. Philip Kapfer, from Las Vegas, Nevada, has developed an interesting format for a performance curriculum which resembles an industrial flow chart and provides for the individual activities of the student in a variety of educational experiences.

John Dunn at Golden High School in Colorado develops a performance curriculum in academic areas by breaking them down into skill areas. For example, he has identified five skill areas in English. He then breaks each skill area down into specific tasks and from these tasks he determines his objectives. He uses two kinds of objectives, performance and general. The general objectives are broken down further.

I might put in here that the greatest limitation to behavioral objectives is that it is very difficult to measure anything in the affective domain with them. Behavior is usually a function of rate of skill learning; it is hard to observe "appreciation" or "interest." Many teachers, however, are developing methods for checking learning that is essentially affective.

The Portland, Oregan, Public Schools have a behaviorally oriented language arts program. I will list for you the parts of that program.

(1) Concept
(2) Objectives (what the teacher wants to do)
(3) Data to be presented (Information the students should know)
(4) Strategies for teaching (how the teacher is going to function)
(5) Source of data (the materials the teacher needs)
(6) Evaluation (how the teacher will evaluate it)

(SEE EXAMPLE)

An interesting program in a vocational area, electronics, has been developed by Earl Schrader at Benson High School in Portland, Oregon. He takes his course and breaks it down into elements. A course may have as many as 15 elements which are similar to concepts. The elements are broken into packages with behavioral objectives. Each package contains a pre-test, post-test, movie criteria, and lab exercises. Evaluation is done by listing all possible criteria for each lab exercise, and then randomly selecting three or four to evaluate on a specific assignment.

I have been working on a device called a matrix of levels. Once the concepts of a specific subject area (such as typing) have been defined, and the performance objectives for each concept are decided upon, a two dimensional matrix is drawn up that specifies that certain objectives shall be met at a specific level. The level stands for a particular course sequence, semester, or grade level.

One feature of the matrix is that it points out the variability in the rate of acquiring different concepts. In typing, for instance, most of the objectives related to knowledge of the parts of the machine must be met early in the first course. On the other hand, meeting objectives related to manuscript writing becomes a process spread over a much longer period of time.

The matrix is a bridge between pure individualized or upgraded instruction, and the rigid, time-based courses now common.

The designation of levels gives both the student and the teacher bench marks for comparing performance among a group. Individual weaknesses or strengths related to specific concepts become easily recognized.

Through a pre-test, a student can be placed on a specific level, regardless of his previous course work or grades. His placement is dependent upon his performance. By the same token, a student leaving an ungraded school can be placed at a certain course level if a matrix with rather commonly agreed upon levels has been established.

Before I close, I would like to read to you the outline I have developed for writing a performance curriculum at the course level in both vocational education and general education.

DEVELOPMENT OF A PERFORMANCE CURRICULUM IN VOCATIONAL EDUCATION

I. Job Analysis

Break down the job, or vocational area, into specific tasks.

II. Task Analysis

1. Break down each task into separate skills.
2. List the skills, noting:
   a. whether they are easy or difficult to learn.
   b. their relative frequency of performance.
   c. their relative importance (e.g., use a 1, 2, 3 scale).
3. Make note of skills that are common to more than one task; e.g., the use of a torque wrench is common to both changing a head gasket and replacing main bearings in an engine.

III. Describe your educational objectives, separately, noting:

1. the behavior you expect the student to demonstrate.
2. the conditions under which the behavior is to take place.
3. the level of acceptable performance required.

IV. Develop course content and materials which will enable the student to reach each objective.

1. Select a variety of instructional techniques, such as large and small group instruction, programmed materials, independent study, and resource center or library assignments.
2. When developing a sequence of instruction, keep in mind skills which are common to more than one task, as noted above.
3. Include student-oriented as well as teacher-oriented devices which evaluate the student's performance.
4. Keep in mind that much time is frequently spent teaching difficult things which are unimportant, and simple but important things are not given enough instruction time.

DEVELOPMENT OF A PERFORMANCE CURRICULUM
FOR
TEACHER EDUCATION PROGRAMS

I. State the desired course outcomes in terms of:

1. knowledge and understanding,
2. abilities and skills,
3. interests, appreciations, attitudes, desires.

II. Determine specific objectives which stand for or represent the above outcomes in terms of observable behavior or performance. The objectives must include:

1. the behavior you expect the students to demonstrate.
2. the conditions under which the behavior is to take place.
3. a defined level of acceptable performance.

III. Develop course content and materials which will enable the student to reach each objective.

1. Select a variety of instructional techniques, such as large and and small group instruction, programmed materials, independent study, and resource center or library assignments.
2. When developing a sequence of instruction, keep in mind skills which are common to more than one task, as noted above.
3. Include student-oriented as well as teacher-oriented devices which evaluate the student's performance.
4. Keep in mind that much time is frequently spent teaching difficult things which are unimportant, and simple but important things are not given enough instruction time.

To summarize, a performance curriculum is the outgrowth of concern for individualized instruction and the questioning of a time-oriented educational system. A performance curriculum can work in any environment or subject area.

Outline of Remarks

For presentation at

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: Vocational educators recognize the need to prepare more instructional personnel to serve the needs of the inner city schools and disadvantaged youth. Dr. Lawrence was invited to speak at this conference because of his close association with the studies of the nature of the problems and the work of the National Institute in planning teacher education.

by Richard E. Lawrence
Director of National Institute
for Advanced Study in Teaching
Disadvantaged Youth
Washington, D. C.

1. The National Institute - An Overview
   What It is - and Isn't   What It Has Done - and Hasn't

2. Related National Projects and Activities

   2.1 Tri-University Project in Elementary Education
   USOE - Bureau of Elementary and Secondary Education, Division of Educational Personnel Training

   2.2 Triple T Project
   USOE - Bureau of Elementary and Secondary Education, Division of Educational Personnel Training

   2.3 Teacher Education Development Project
   USOE - Bureau of Research

   2.4 Educational Professions Development Act
   USOE - Bureau of Educational Personnel Development

   2.5 Associated Organizations for Teacher Education (AOTE)

   2.6 Consortium of Professional Associations for the Study of Special Teacher Improvement Programs (CONPASS)

3. Some Common Elements for Model Programs in Teacher Education

   3.1 Broad involvement of related personnel from

   - Colleges and Universities - Pedagogical and non-pedagogical faculty members
   - Schools and school systems
   - State departments of education
   - Community
   - Related human service professions

   3.2 Redefinition of the purposes of teacher education programs

   - Clarification of the relationship of educational purposes to broader social problems
   - Redefinition of "teacher" - educational personnel - task analysis differentiation of roles

   3.3 Multiple and variable entry points

   - Reconsideration of admission requirements
   - Inclusion of "new careers" concept

   3.4 Revised professional sequence for pre-service programs

   - Early and continuing experience in broad range of reality situations
   - Pedagogical development based on analysis of teaching
   - Emphasis on conceptual (cognitive) processes
   - Concurrent attention to affective learning

3.5 Increased attention to international aspects of education

- Cross-cultural experiences

3.6 Provisions for articulation and continuity between pre-service and in-service development

3.7 Provisions for continuing in-service development of "teacher educators" - college and school personnel

3.8 Evaluation based on products of the program rather than its processes and structure

- Proposed new standards for accrediting teacher education programs and institutions
- Proposed new bases for certification of educational personnel

4. Some Basic Issues and Their Implications for Teacher Education

4.1 What purposes for formal education should direct teacher education programs?
Shall we prepare teachers to function effectively in the present system or to change the system?

4.2 To what extent should social purposes determine or influence educational purposes?
How shall educators (especially teacher educators) respond to the "integration - compensatory education" controversy?

Related assumptions:

- That the alienation of youth - from society, from schools and teachers as surrogates of society, from their parents and other adults - is a general problem affecting all levels and groups in our society. It is a problem, however, which is aggrevated by conditions associated with the complexities of urban living and by the minority status of large portions of the urban population.

- That the fundamental problem of our times - particularly in urban areas - is the task of equalizing educational opportunities for racial, ethnic, and socio-economic groups. The other problems - environmental pollution, population control, transportation, even world peace - are important but must take secondary priority.

4.3 How shall we define "teacher education"? Can we continue to prepare all teachers the same way, as if they are going to fill similar roles and need similar levels of competence?

4.4 How much specialization in teacher education - particularly pre-service teacher education - is appropriate? Does the preparation of teachers for inner cities and other "disadvantaged areas" require special programs or is "good" teacher education the same for all teachers?

4.5 What strategies for change are most likely to be effective, both immediately and in the long-run for teacher education?

5. Conclusions

We must resist the temptation to be drawn into little, parochial, highly-specialized efforts.

As teacher educators, we must make a large-scale and continuing commitment to:

5.1 Integration - or at least desegration - of

- College and university faculties with which we identify
- Student teaching programs
- Student organizations involved in teacher education

5.2 Involve students more directly and significantly in their own learning and in our planning and development of programs to encourage and facilitate their learning

5.3 Providing all relevant faculty members with real experiences in the situations for which they are preparing teachers

5.4 Development of institutional policies which will actively promote the desegration of educational institutions and will effect full equal educational opportunity

Teacher Education for the American Industry Project

A paper prepared for

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: The advisory committee for the conference felt that the model programs represented by these four presentations were worthy of consideration at this conference for possible implementation in other teacher education programs. It was not the intention to have representation of all the vocational areas being served, but rather to look at the methodology and organization of the model programs for adaptation in other institutions and vocational service areas. A close examination of these several models would reveal a number of practices or innovative ideas which could be combined in another teacher education program. Out of four models, some general concepts about vocational teacher preparation were evolved.

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Saying anything very optimistic about the available research on teachers and teacher characteristics and their impact on the education of children is not really the in thing to do these days. We need not search very far for support for this attitude either. Two of the most prestigous publications dealing with the subject, The Handbook of Research on Teaching, and the recent Coleman Report, Equality of Educational Opportunity are, if anything, pessimistic about the possibility of deriving any useful information from the plethora of research data.

If such caution will prevent us from acting foolishly upon unfounded inferences, one could only applaud. However, I am afraid that the result too often has been that we do not act at all and we use such pessimistic pronouncements as salve for a wounded conscience. I rather prefer the attitude of the dean of a School of Education who shall remain anonymous. When approached about some innovative idea he would usually respond - "go ahead and try - most of what is being done now is probably wrong so you are not likely to make things much worse and maybe you will make some improvement." Although hardly brimming with optimism there is, at least, a willingness to try and to take a certain amount of calculated risk.

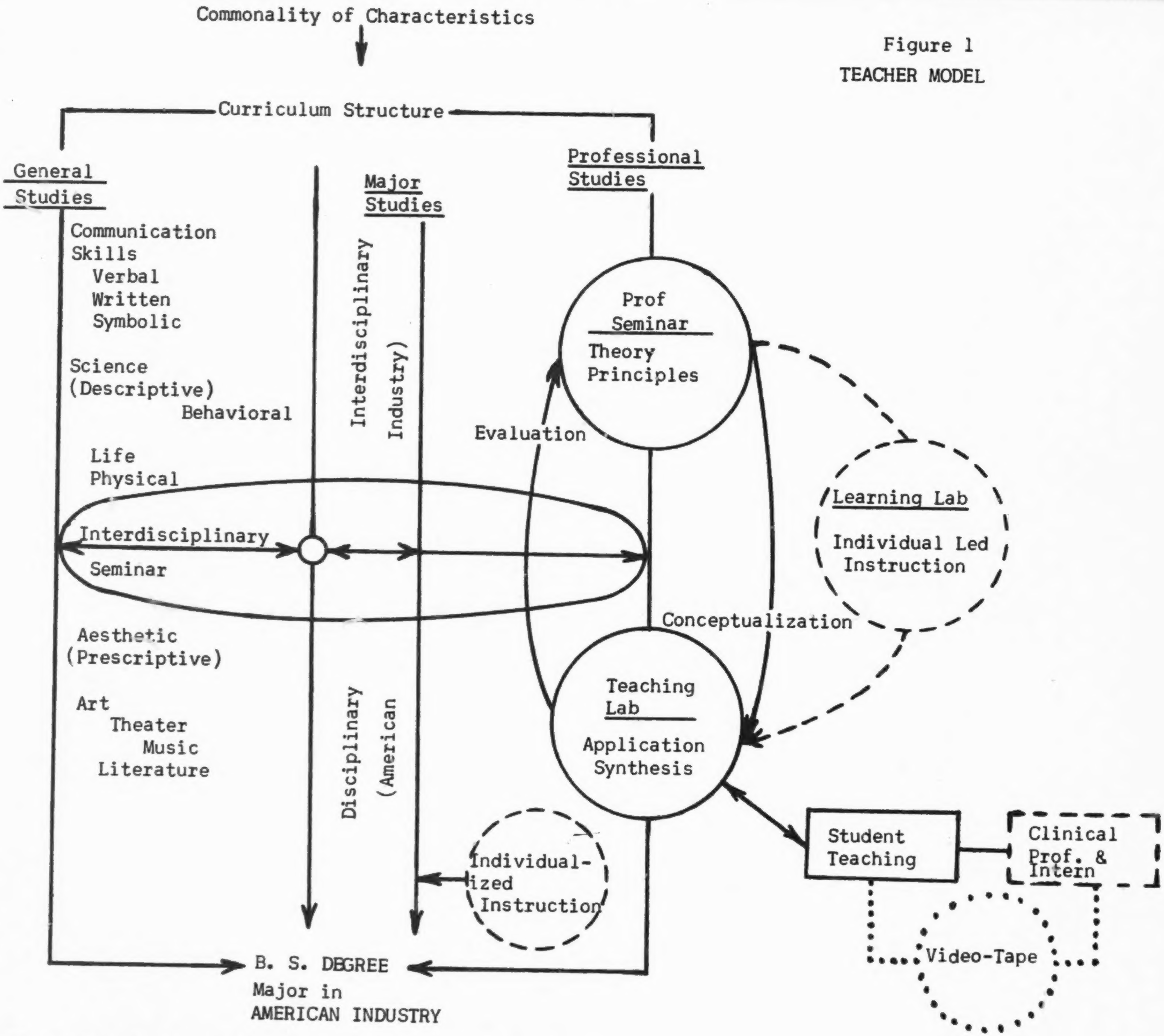
With that thought of calculated risk, I would like to outline the major elements of our Teacher Education Program. In the illustration (Fig. 1) are shown the various elements of our program. Solid lines indicate program elements which are fully operational. Dashed lines - - - indicate elements that are partially operational. Dotted lines . . . indicate elements that are still in the planning stage. It is especially pertinent that the three main elements of the program, liberal studies, professional studies and major studies are all taken simultaneously over the four-year period rather than stacking them in layers as is the more common practice. I will detail each of the elements shown in the illustration in the following order:

I. Teacher Model
II. Structure of the Curriculum
    A. General Studies
    B. Major Studies - Individualized instruction
    C. Interdisciplinary seminar
    D. Professional Studies
        1. teaching lab - student teaching
        2. professional seminar
        3. learning lab - individualized continual progress instruction
        4. clinical professorship
        5. video-taped student teaching internship

I. Teacher Model

The purpose of building a teacher model was to provide objectives for the development of curriculum. We hoped to come up with information that would tell us what to do for people who wished to be teachers that would help them to accomplish this goal. That such an undertaking is not entirely outside the realm of possibility is shown by N.L. Gage in his article "Can Science Contribute To The Art of Teaching".

Figure 1
TEACHER MODEL


Commonality of Characteristics
Curriculum Structure
General Studies
Communication Skills
Verbal
Written
Symbolic
Science (Descriptive)
Behavioral
Life
Physical
Interdisciplinary
Seminar
Aesthetic (Prescriptive)
Art
Theater
Music
Literature
Major Studies
Interdisciplinary
Industry)
Disciplinary
(American
Individual-ized Instruction
Professional Studies
Prof Seminar
Theory
Principles
Evaluation
Conceptualization
Teaching Lab
Application
Synthesis
Learning Lab
Individual Led Instruction
Student Teaching
Clinical Prof. & Intern
Video-Tape
B. S. DEGREE
Major in
AMERICAN INDUSTRY

The teacher model was not conceived of as an original development, nor was it intended to project a stereotype model teacher. It is a structuring of available information into a form which provides guidance for curriculum development. The model is flexible and intended to provide for change as additional data is brought into it.

Two sources were used for the collection of our data: A review of literature and interviews.

The data were sorted into four cells.
1.1 Modifiable - supported by opinion.
1.2 Modifiable (under typical classroom conditions) supported by data.
2.1 Non-modifiable - supported by opinion
2.2 Non-modifiable (under typical classroom conditions) supported by data.

	(1) Supported by opinion	(2) Supported by data
Modifiable (1)		
Not Modifiable (2)		

In many cases different instruments were used in several studies relating to a given point of view. This raised the question of whether the several instruments were, in fact, getting at the same thing.

The questions was resolved as well as possible by analyzing the instruments involved and the inferences drawn from it. If the instruments and inferences were consistent, then the dimension they represented was accepted in an appropriate cell.

In the general sense, three types of criteria were found to have been used in the data which was collected; student gain, rater evaluation, and logical argument. The first two criteria were considered as offering support to a dimension through empirical data; the last, logical argument, was considered as offering support through opinion. Precedence of validity was given to these three criteria in the following order: (1) student gain, (2) rater evaluation, and (3) logical argument.

Where the collected data were not consistent, precedence was given to data representing the above criteria, in the order given. In each such case, attention was given to the design of the study, the appropriateness of the conclusions, and the appropriateness of the statistics used. Consideration was also given to the relevance of the logical argument. As these conflicts of internal consistency were resolved in favor of a given point of view, it was taken as a teacher dimension, supported by empirical data or opinion, depending upon the outcome of the resolution. If there was no agreement or if the weight of evidence did not substantially support one point of view, then the dimension was not included, or it may have been included as supported only by opinion if there was a considerable body of consistent opinion and only a little research. A dimension may be included on the basis of support by opinion alone.

Within both classifications, supported by opinion and supported by empirical data, there was a classification by modifiability. That is, modifiable or not modifiable.

Modifiable implied that the dimension was one which might be attacked directly with some hope of success by some typical educational processes directly under the control of a teacher within the university. Knowledge of subject matter is a dimension of this classification.

Not modifiable implied those teacher dimensions which may not be predictably affected by the direct actions of a teacher under typical conditions. The various personality characteristics are dimensions of this classification.

This illustration shows the model with a few of the dimensions in place.

	Supported by opinion 1	Supported by data 2
Modifiable 1	1.1.1 Has consistent philosophy 1.1.3 Relates to school and community 1.1.8 Acceptable personal appearance	1.2.2 Can establish set 1.2.3 Uses appropriate forms of reference 1.2.10 Has broad cultural interests 1.2.13 Knows his subject
Not Modifiable 2	2.1.1 Acceptable physical appearance 2.1.2 Acceptable societal model	2.2.2 Is flexible 2.2.4 Good intelligence 2.2.5 Energetic

This classification system permits both a rational classification of existing information and facilitates the storage and retrieval of new information by cell code, number, and letter subscripts. If new data supports or rejects a given dimension, this may be recorded on the classification by a + or -. This permits the revision of teacher dimensions as additional data becomes available. This is an on-going procedure. Dimensions may be added, eliminated, or relocated with ease. Because of the limited amount of data available concerning some of the dimensions, their present location may be rather tentative.

Once the model had been developed and the various dimensions were available this information was used to lay out a theoretical curriculum using the teacher model as a guide. One test of the validity of the model is presently underway through the integration of the model with a series of research studies being conducted by Dr. Wayne Courtney. Through a series of previous studies Dr. Courtney has been identifying competencies required by, and common to, all vocational or occupational teachers.

In his latest study, which is national in scope, the refined competencies have been ordered in accord with the dimension of the teacher model. Five hundred teachers from ten states will be involved in the latest study. The results may be available in the fall of 1968.

II. The Structure of the Curriculum

The structure of the curriculum was a tedious process. We interviewed department heads, deans, and selected instructors to determine two items, one, the objective of the course for which they were responsible and two, how they determined when these objectives had been met. We gave up the second item after a while because it became readily apparent that evaluation usually had little relationship to the objectives.

In due course we came up with a list of teacher dimensions in one hand and a list of course objectives in the other hand. Then we began matching one with the other. We quickly found that if we used all available courses and balanced the dimensions as equally as possible the curriculum would cover about seven years and a summer or two.

The curriculum was reduced to four years plus one summer for 132 credits which is an obvious bow to tradition. Since there were very few institutions or state requirements for graduation or certification the curriculum reflects rather well the influence of the model.

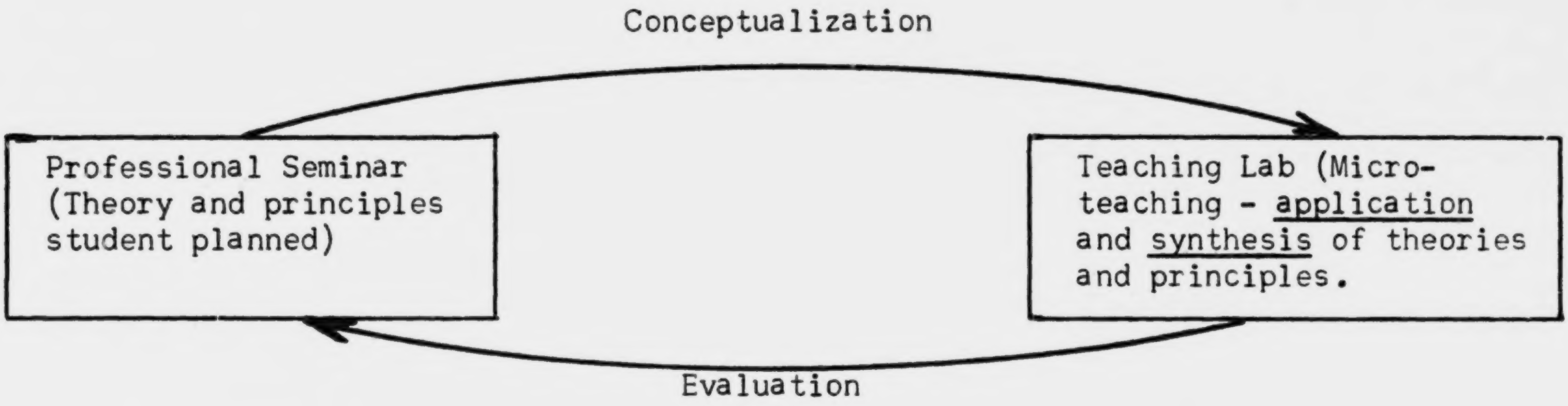
a. The General Studies represents about 60 hours of the curriculum or slightly less than ½ of the total time. This includes math, english, physical life, and behavioral science, theater, art, music, and physical education.

b. The Major Studies represent about 34 credit hours. Because their content is not especially pertinent for this presentation I will not dwell upon it. However, it is probably pertinent to note that about 8 credit hours of the work soon will be moving into an individualized continual progress format. Objectives, format, and the designs of the instructional packages have been completed for about ½ of the 8 hours. We are waiting now to purchase the media to complete the instructional packages. Most of the hardware, such as projectors, is available. Another relevant point is our requirement that the student spend at least one summer employed in industry.

The Interdisciplinary Seminar serves the function of creating a confrontation with the total interdisciplinary nature of the University. This session meets once a month. Three or more volunteer faculty from different disciplines meet with the students in a joint confrontation of a topic which is interdisciplinary in nature. No credit is awarded thus there is no grade and, therefore, no requirement to try and second guess the professor for a grade.

The Professional Studies are represented by a sequence titled Professional Teacher Education for American Industry A, B, C, D, E, F, (Pro. T. Ed.), which is separated into two major elements--professional seminar and teaching laboratory. The professional seminar provides for integration of supportive knowledge, role evaluation, and evaluation of theories and principles of teaching and learning. The seminar format is used to facilitate the substantial amount of verbal inter-action and self direction which seems necessary for internalization and integration. To provide for the analytical processes necessary to precede synthesis, the traditional course boundaries such as Educational Psychology, Introduction to Education, and similar courses, were eliminated and self-direction was stressed. The students identify and plan their own topics or develop topics from behavioral objectives prepared by the staff, or the staff may suggest possible topics. The process is one of helping and guiding the student as he prepares himself as a teacher. In this manner content is maintained while sequences and scope are normally determined by the interest and motivation of the students.

A graphic illustration of the learning system is shown below.


Conceptualization
Professional Seminar (Theory and principles student planned)
Teaching Lab (Micro-teaching - application and synthesis of theories and principles.
Evaluation

Each seminar session is audio-taped, edited, and transcribed. The summary is distributed to both staff and students before the next session and serves as a permanent record of the substantive content covered and the depth to which it has been pursued. Each student participates in the professional seminar four hours per week and in teaching laboratory once each week.

The teaching laboratory uses video-taped micro-teaching, an approach adapted from the Stanford University STEP program. The teacher presents a five-minute lesson to a micro-class in the evening (four secondary school students are employed in each micro-class section). The following day the student and the staff methodologist evaluate the lesson. The next week the revised lesson is re-taught to a different micro-class, video-taped, and evaluated. The teaching laboratory provides evaluative feedback into the professional seminar which improves the integration of theory and practice. Presently, eighteen students may present lessons in a two and one-half hour period.

After satisfactory completion of the Pro. T. Ed. sequence the student has earned 12 semester credits in professional education. He then enters nine weeks of student teaching for which eight credits are awarded. Pro. T. Ed. plus Student Teaching provides the sum of the teacher pre-service professional experience. A pilot program to explore and develop the roles and functions of a Clinical Professor was begun this fall. When operative this will support the extension of the system into the off-campus learning experience.

Notice that the professional preparation of the teacher is begun in the freshman or sophomore year. This is done to provide adequate time for role acceptance or rejection with minimum threat. Early involvement in the process of teaching provides skill development in implementing the learning/teaching process, while providing realistic simulation of the teacher role. Students are also encouraged to become active in outside teaching activities in evening school, church, scouts, tutoring, and similar positions.

Objectives. The curriculum planners in developing the professional teacher education program have maintained the position that the development of a committed and competent teacher is independent of the subject to be taught. Inferences drawn from the teacher model suggest that the following major objectives should be met to prepare such a teacher. These include:

1. Acceptance and commitment to the role of the teacher.

2. Sufficient experience with the role of the teacher to accept or reject the role before it is too late to change.

3. Sufficient skill implementing the learning process to bring about predictable changes in the behavior of students.

4. Ability to integrate the knowledges and skills required of a professional educator.

These broad objectives and their implication served as guides for the design of the program. Specific behavioral objectives for the program have been developed and are constantly being refined and expanded. These objectives have begun to serve as the basis for an individualized continued progress curriculum for teacher education which is in the early stages of development.

The learning lab development centers around the implementation of the individualized continual progress curriculum format for Professional Teacher Education. Presently we have a large number of objectives specified and we have a few instructional packages in operation. The packages presented operationally deal with teaching stratagies, teaching acts, and evaluation.

The learning lab with its individualized continuous progress curriculum will be made up of discrete instructional packages which allow the students to achieve at their individual learning rates. Operationally, it will function like this:

When a student with the assistance of an instructor selects a particular instructional package in his individual learning program, he takes a pre-test based on the behavioral objectives in the instructional package. If the pretest results indicate that he is ready for the concepts or skills in the instructional package, he selects from suggested learning materials and activities in the instructional package those which fit his own unique learning style. (The pre-test may also show he has already mastered the objectives for that particular package in which case he may take the post test. If he successfully completes the post test he may proceed to another instructional package.)

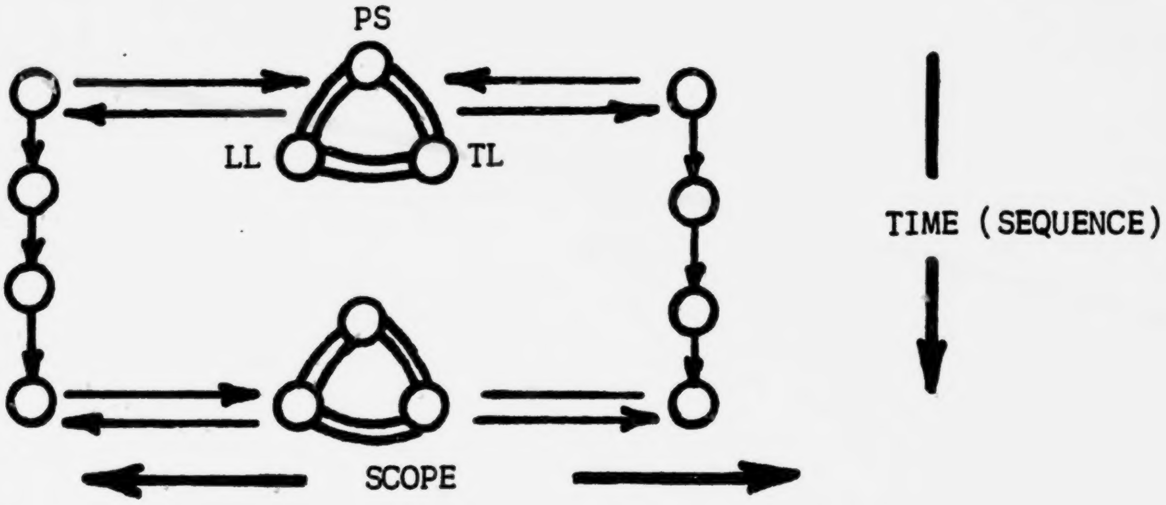
When a student feels that he has achieved all of the behavioral objectives in an instructional package, he takes a self-test. If the self-test results indicate that he is ready for instructor evaluation, the student can request the post-test for his instructional package. Upon successful completion of the post-test, the student may proceed to his next instructional package or he may undertake independent study.

If the student elects to participate in independent study, he defines a problem for in-depth or in-breadth study, and conducts research to achieve some level of resolution of his problems.

During the entire learning sequence the instructor provides as many opportunities as possible for student-teacher and student-student interaction during conferences and seminars. The instructor monitors each student's progress, diagnoses learning problems, and evaluates each student's progress in achieving stated behavioral objectives. An individualized continuous progress curriculum provides a much more personalized teaching-learning situation for both the teacher and the student.

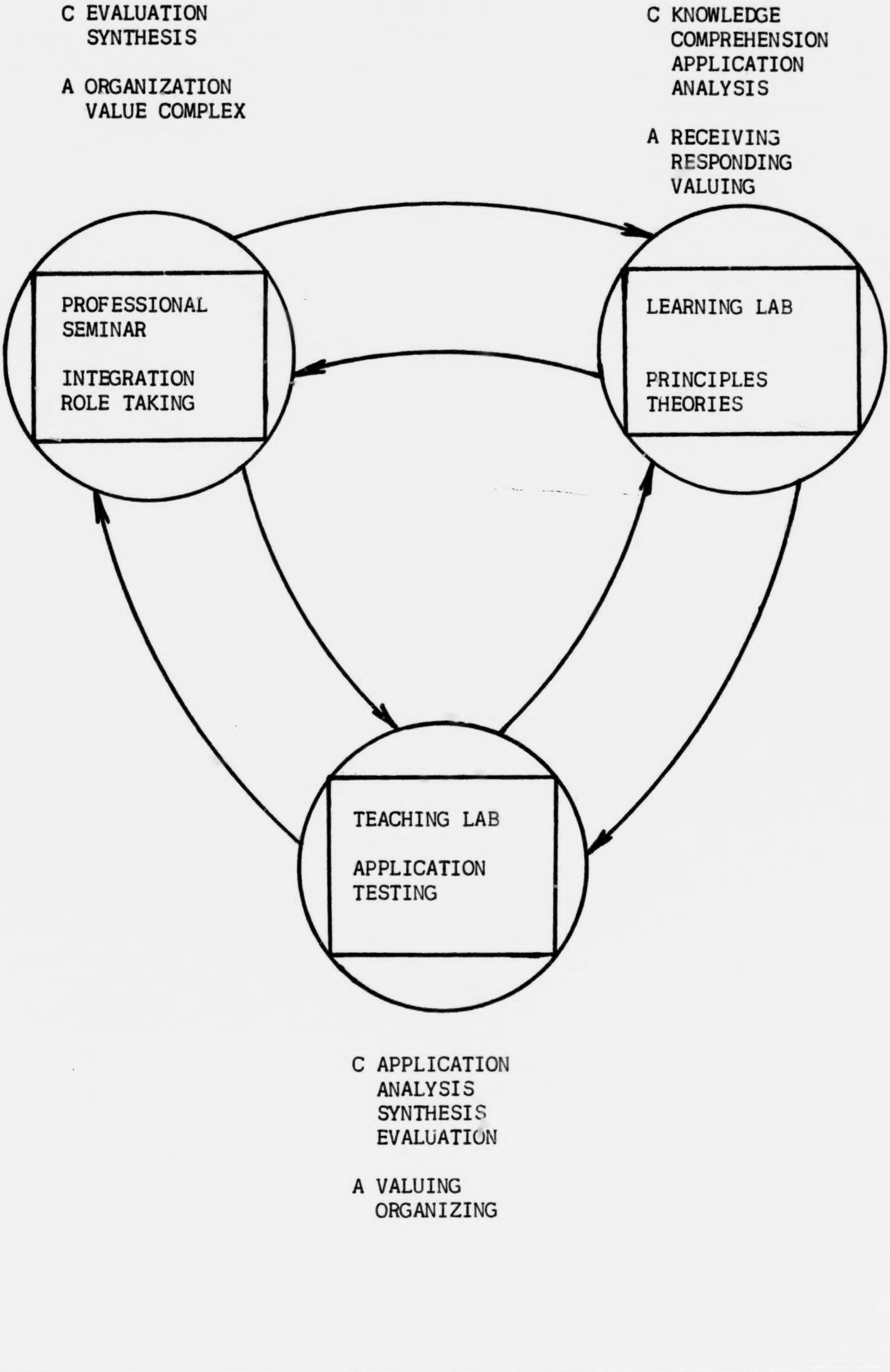
A graphic illustration of the relationship between the existing Pro. T. Ed. seminar and teaching laboratory and the individualized continuous progress curriculum (designated as learning laboratory in the illustration) is shown in the following illustration. (next page)

Because of the individualization of some of the major studies and professional studies and the streaming of all studies the relationships among the various components look something like this:



The development of the clinical professorship and intern teaching was begun last fall. Neither of these is an especially new concept, however, when augmented with video-taped evaluation they can become powerful extensions of the total development of the professional teacher.

In summary--having begun with a model of the effective teacher we have attempted to develop a curriculum which is consistent with that model.


C EVALUATION
SYNTHESIS
A ORGANIZATION
VALUE COMPLEX
C KNOWLEDGE
COMPREHENSION
APPLICATION
ANALYSIS
A RECEIVING
RESPONDING
VALUING
PROFESSIONAL SEMINAR
INTEGRATION
ROLE TAKING
LEARNING LAB
PRINCIPLES
THEORIES
TEACHING LAB
APPLICATION
TESTING
C APPLICATION
ANALYSIS
SYNTHESIS
EVALUATION
A VALUING
ORGANIZING

The characteristics of the program include (a) a seminar in which theories and principles of teaching are developed; (b) time during which the student may conceptualize these knowledges; (c) utilization of a teaching laboratory for application and synthesis of these knowledges; (d) provision for self and faculty evaluation; (e) the opportunity for internalization during seminar discussion, which completes the cycle. We feel that our success lies in the demonstration of the feasibility of a systematic and integrated approach to the preparation of a professional teacher.

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"The Relevance-Quest Curriculum"

A paper prepared for

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: The advisory committee for the conference felt that the model programs represented by these four presentations were worthy of consideration at this conference for possible implementation in other teacher education programs. It was not the intention to have representation of all the vocational areas being served, but rather to look at the methodology and organization of the model programs for adaptation in other institutions and vocational service areas. A close examination of these several models would reveal a number of practices or innovative ideas which could be combined in another teacher education program. Out of four models, some general concepts about vocational teacher preparation were evolved.

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Preface

One cardinal principle lay at the head of the process out of which this material has developed: it is simply that man is the focus and the individual is the unit through which education works toward a progressively better human condition. Consonant with that principle was the assumption that curriculum development stands as an attempt to optimize the individual student's ability to interact adequately with his environment. If the term "adequately" appears overly moderate to the reader, be reminded that, comparatively speaking pervasive development of even minimally "adequate" modes of human interaction in our world today would be a monumental step forward.

The body of this curriculum proposal is concerned with ability optimization within a broadly interpreted context of industrial education teacher preparation. It would be a body sans head were the author to ignore a preliminary statement of value orientation. Hence, Part I presents a limited and abortive thrust in the direction of what might be termed an ideological psychology; a value laden statement of both process and direction. Three umbrella concepts are therein postulated. The first generalizes a hypothetical developmental behavior mode sequence; the second introduces the idea of "concurrent relevance" among behavioral domain sets (after Bloom et. al.); and the third attempts definition of a value orientation and inferred enabling conditions. Abstraction of "concurrent relevancies" from among the three concepts, and application to curriculum will hopefully occur in the remaining parts of this proposal.

Part I: Some Conceptual Openers

A Human Development Process Model

Industrial Education has, for so long, been enamored with, "the pupil will be able to ..." statements, ergo justification, that it has truly come to signify a way of life . It should not startle anyone to find increasing numbers of practitioners at all levels in the discipline exhibiting marked symptoms of "objective" claustrophobia. Contemporary curriculum projects have tended to escalate anxiety levels of the great mass of the non-claustrophobic for many reasons; one such reason of purely hypothetical proportions totally unverified and unfettered by any publishable empirical evidence is that the projects have not been exposed in the light of any adequately comprehensive and comprehensible paradigm. Figure 1, "Human Development Process Model" via glorious simplification, depicts such a paradigm.

In the present context the model possesses utility to the degree that it draws attention to predominant behavioral modes and to the cyclic nature of the behavior development process. The model application of and discrimination among model elements constitutes the behavior development mode of the infant. It becomes a secondary function as the individual passes into childhood and early adolesence at which stage differentiation among and transient identification with integral models assumes the model role. In similar progression the model role moves through the categories to "self-fulfillment" in mature, independent, adulthood.

A less generalized interpretation of the paradigm assumes a third dimension. Logically an individual may function under two or more dissimilar modes in an equivalent number of life streams, i.e. he could conceivably fall under the

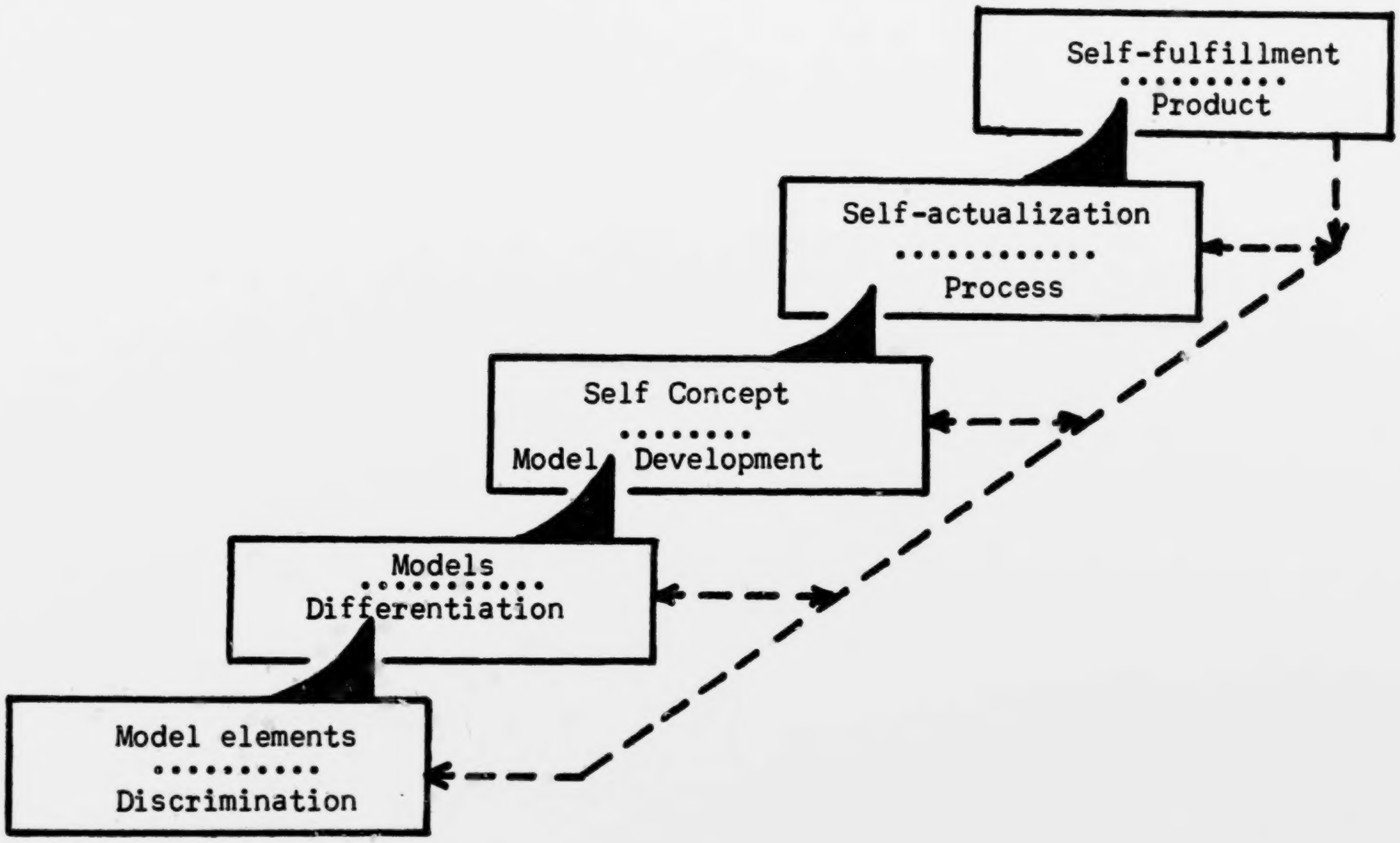
Self-fulfillment
Product
Self-actualization
Process
Self Concept
Model Development
Models
Differentiation
Model elements
Discrimination

Figure 1

Human Development Process Model

self-actualization mode occupationally, the self-concept model development mode socially, and the model differentiation mode matrimonially. Major stresses in the process would be expected when several disparate modes exist concurrently or should regression or recycling be forced by major changes in a given life stream.

As a directly pertinent example of another functional variation in process, one might immediately assume that the college student enrolled in a professional program functions under the dome of the "self-actualization" mode. Paradoxically, and possibly with overly rash cheek, one could respond to the assertion with an adamant and highly probable "not so ". Absence of adequate residence under and exploitation of preceding modes could result, in this example, in overt acceptance of a ritualized self-actualization process and "settling for" a self-fulfillment package rather than even a close approximation of fervent aspiration thereto. In brief, we are caught up in the industrial education syndrome - "the pupil will be able to . " - to the frequent disregard of the functional mode appropriate to the individual aimed at a "the pupil will be . ." kind of goal. Mediocre performance in acquisition and later in-service demonstration of self-actualizing processes may well be much less due to intellectual and/or psychomotor disability than to inadequacy of other self-model foundations.

The American public education system, per se, can very aptly be characterized as a system dedicated to the self-actualization process. Industrial education has emulated the parent well. Neither have made more than infrequent (and then much maligned) sortees into the before and after modes. The school guidance movement in the past decade has been a faint in this direction but in practice its teeth seem to have been extracted by other expedient demands. Better examples of other-mode exploitation may be easily found outside the kin of public education in the work of some church agencies, social work, corrections, and among some privately operated federal rehabilitation programs. These tend to have a major characteristic in common - they are remedial rather than developmentally preventative.

The import of operational recognition of the behavior development mode concept lies in the direction it gives to the educator's perception of function. To use the term "preventative" as a partial definition of that direction would strain the sense of the term beyond its possible meaning. A far better clarification of direction may be drawn from Maslow's several characteristics of the healthy self:[1]

1. Superior perception of reality

2. Increased acceptance of self

3. Increased spontaneity

4. Increased problem centering

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[1] Maslow, Abraham, Toward A Psychology of Being, New York, New York: Harper and Row, 1954, pp. 23-24.

5. Increased detachment and desire for privacy
6. Increased autonomy, and resistance to inculturation
7. Greater freshness of appreciation and richness of emotional reaction
8. Higher frequency of peak experiences
9. Increased identification with human species
10. Changed (improved) interpersonal relations
11. More democratic character structure
12. Greatly increased creativeness
13. Certain changes in value system

Some small flash of despair passes as one reminds himself that several of Maslow's characteristics are viewed with indifference at best and violent disfavor too frequently by some segments of our population. Any movement to exercise in the direction of those behaviors through public education en toto would face an all too familiar and discouragingly bitter struggle. Such is not a reasonable alternative. Identification and applications of promising enabling practices to teacher education curricula does hold some reasonableness, however. At this point one can hardly fail to note advocacy of a fairly distinct value position as represented through Maslow's characteristics.

Concurrent Relevance

Our institutional conception of proper roles and patterns for general education (liberal education), in contra-distinction to specialized (professional) programs, has a body of rationale behind it which only the folly-bent would attempt to refute. The dichotomy exists, the cognition bound stereotype of general education exists, an institutional structure exists, and a small dilemma holds all functionaries in a posture of amiable, though covertly defensive, consternation. How to achieve effective mix of and mutual impact between the general and the special is the name of the game - alias dilemma.

A diagramatic representation of the problem, Figure 2, "Concurrent Relevance", casts the components into a communicable qualitative relationship.

Specific disciplines lend themselves to instructional emphasis upon one domain or another to the semi-execution of the remaining two. As an example of contrast within one field of related disciplines one might choose the program of study established for the preparation of a machinist. The instructional pattern would work within the psychomotor domain with limited but directly pertinent digressions into the cognitive domain. Were the programs directed toward the preparation of the metallurgist the emphasis would be reversed. In neither case would major concern be demonstrated, typically, for the affective domain and its contribution toward a life stream goal cast within a life-style context. The impact of the relevant instruction would fall, in large, on the limited "job title" goal. An insuing hypothesis would assert that the potential impact of the tri-domain area of "Concurrent Relevance" on the goal-in-context would be minimized or lost. Only the force of the individual's generalized thrust toward a life-style goal would encourage growth in that direction.

Common educational practice within given disciplines pursues predominantly single or dual domain patterns which depend, for success, upon an individual's general goal orientation. Such has helped precipitate the perjured use of the terms "academic education" on the one hand and "vocational training" on the other. Goals too broadly perceived abet the former and goals too narrowly defined encourage the latter; both maintained, in practice, by a seemingly habitual methodological conservatism on the part of educators. The proposition presented here is not that the forgoing practice has been grossly unsuccessful (though, comparatively it may have been) but rather that a strategically conceived multilateral instructional pattern directed toward a conscientiously identified viable life-style goal should "tweek" the educator's imagination.

The concept of "Concurrent Relevance" is certainly something less than new. The idea has enjoyed an extensive literary visibility as well as reasonably frequent and occasionally persistent "pilot" applications. The demise or socially restricted nature of some of the more contemporary attempts at educational programs built around an equivalent of the "Concurrent Relevance" idea have fostered both caution and inspiration. Were one to poll the education community on the characteristics of programs covering the range between Summerhill and Antioch, recognition of the common strains toward CR in education practice would prove logically prevalent. Some question might arise, however, concerning the value patterns reflected in selected program goals.

Subjective evidence of the success of programs predicted on a "Concurrent Relevance" instructional matrix is reasonably abundant. Programs, whether cast in the milieu of poverty pockets, correctional systems, or college campuses, which substantially speak to the interset among domains and goals-in-context have received a commanding sub-statistical notoriety. Each has been viewed, not necessarily charitably, as revolutionary in practice. It would be hopeful indeed if educators were to become less disgruntled and intimidated by the rudeness of revolution and more excited by the invitation to guide change.

The direction and nature of change extolled here, in an inferential manner, is toward a working integration of the learning domains subsumed under realistic life-style goal configurations and cognizant of differentiated individual behavioral modes. The traditional education program has built us a house of credits; residence therein has grown increasingly tenuous. A significant number of men of learning, and even some possessed of no little wisdom, have had the temerity to suggest that the house is uninhabitable.

Human Optimization and Enabling Conditions

Under the pretentious title, "Human Development Process Model", a tentative human development paradigm was introduced. The apex mode - self-fulfillment- was left hanging without benefit of the last sacraments of definitive context.

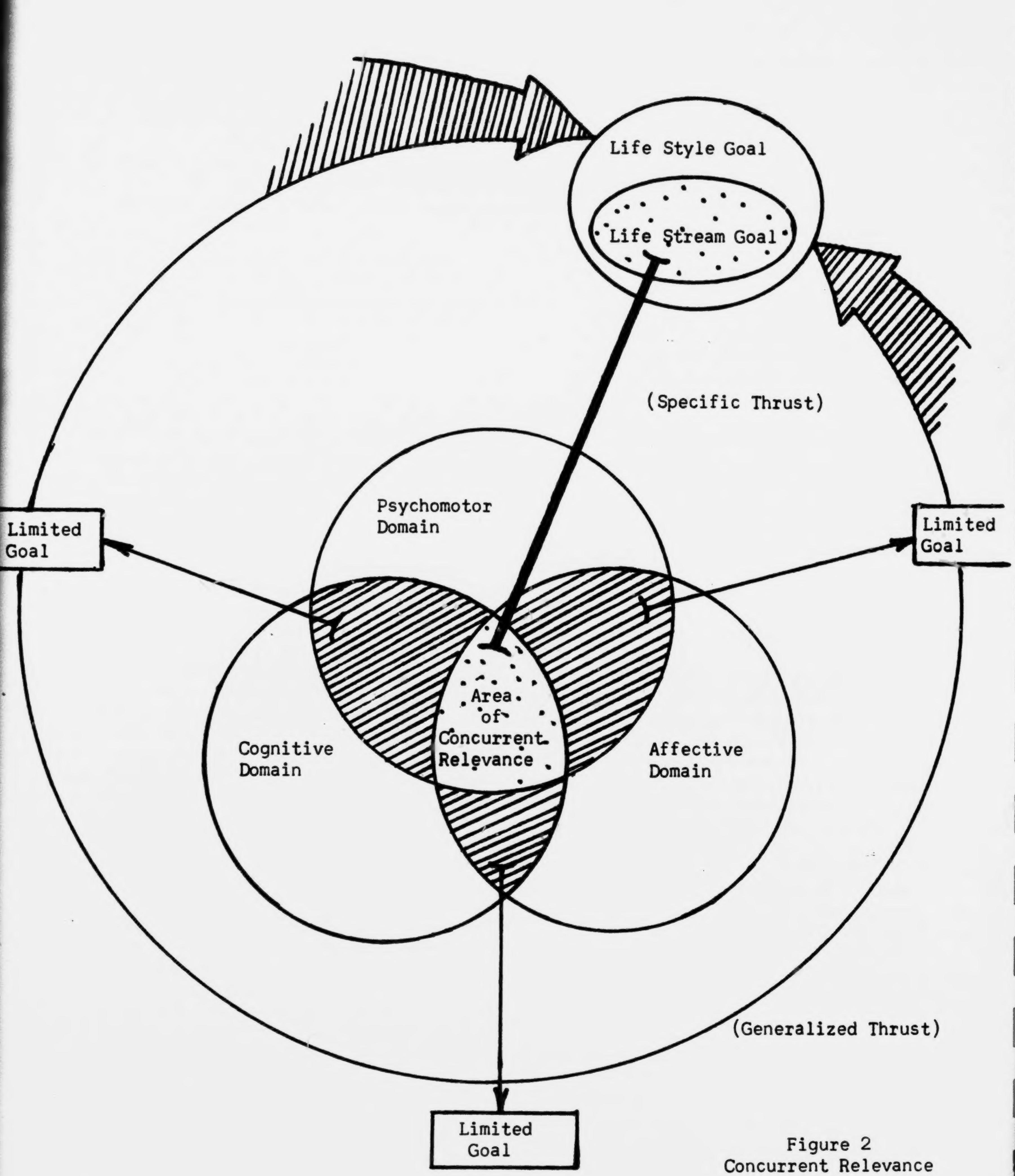
Life Style Goal
Life Stream Goal
(Specific Thrust)
Psychomotor Domain
Limited Goal
Limited Goal
Area of Concurrent Relevance
Cognitive Domain
Affective Domain
(Generalized Thrust)
Limited Goal

Figure 2
Concurrent Relevance

The function of this subsequent sequence of paragraphs is to provide such a context and in so doing establish, in brief, an umbrella value orientation. In the absence of universally acceptable tag for the position to be expressed the reader is asked to accept coinage of the term "Optimum Human Condition." Development of progressively greater clarification of that hypothetical condition and capability for attainment of some increasingly fine approximation of that condition is an encompassing function of a humanized social system. Such is no less the case when referring to the vocational facet of the educational enterprise than when traditionally classified liberal education programs stand in focus. It would seem inappropriate in the context of this proposal to attempt an intensive and comprehensive description of the "Optimum Human Condition." Sufficient definition may be provided through a number of generalizations which have extensive support of contemporary related literature.

The "Optimum Human Condition" is a construct; tentative and of a time and place. Mankind at large has sensed its existence but has lacked a wide consensus; behavioral scientists have inferred its existence but have lacked scientific proof; mystics have given it great specificity but have been confounded by the weight of ultra-human ends on human mind and flesh.

In truth, the "Optimum Human Condition" appears to be a body of aspirations, of states of being never quite attained and in that sense it becomes, functionally, a process or tendency rather than a conclusive and definite "condition". A vast amount of man's energy and wit is given to the development or acquisition of "enabling" conditions; conditions which permit one to approach more closely the elusive "Optimum Human Condition."

Definitions of exemplary "Optimum Human Conditions" might range from naive generalizations of the "psycho-physical cornucopia frosted with variegated tranquility" genre to the simple conception held by the chronically and grossly deprived - "enough to eat and a warm place to sleep." Attainment of the former, though certainly approached by a few, has always been well beyond the grasp of man in general - quite probably because the existence of the latter has consistantly torn holes in the cornucopia. Both momentary joy and misery may exist in isolation but persistent joy and persistent misery act as a leaven. The "Optimum Human Condition" is a construct receptive to the mass of mankind, not to an acquisitive few.

A broadly generalized definition of the "Optimum Human Condition" might be stated as a cultural conception of the good life (here and/or hereafter) and the proper means, i.e. the body of moral and ethical practices, to that end. Specification of a particular cultural conception might be most expedituously arrived at by assessing the dominant governmental programs, desposition of public and private capital, the education and public welfare programs, the religious climate, the modes in leisure activity, etc. These provide some important pointers which indicate the direction if not the precise delimitations of "Optimum Human Condition". Confusion (not to be considered synonymous to "negation") concerning the nature of our societally inferred Optimum Human Condition is compounded by the fact that even within a very restricted sample of western man one would find exception countering consensus on such points as free public education, Medicare, "the intrinsic worth of the individual", the Bill of Rights and so on. Williamson[1] specified the following five points as constituting a pivotal value hierarchy underlying striving for the "good life".

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[1] Williamson, E. G., "Youth's Dilemma: To Be or To Become." Personnel and Guidance J: 46/2, October, 1967.

1. "We accept the supreme worth of each person in his own right, within his potentiality to become (through change) a full person characterized as humane.
2. We accept rational understanding as basic to the choice of "right" conduct, in the manner of Socrates' concept of ethics.
3. We Americans prize greatly and seek to induce in students the urge to cultivate one's individuality. We thus pride ourselves on each one being and becoming different within our own capacities and potentialities.
4. Our ethical systems presuppose respect for each person in the Kantian sense of persons as ends and not as means to ends.
5. We prize our ethical compassions for those less fortunate who have not yet achieved the "good life."

That contradiction to and disagreement with these selected statements might be forthcoming from some "majority" groups, in our greater community of humans, stands as absurdly obvious. May it suffice to assume that the general contour of the "good life", the humane ethic, or the Optimum Human Condition exists, although man's detailed definition remains rather arbitrary and certainly transitional in implementation. The individual's posture under the "Optimum Human Condition" would be one of positive self-fulfillment. That is, the individual would be characterized by his will to attain constructive personally-accepted goals and aspiration, and his successful use of self in personally construed significant ways. There are a number of terms which have been used as roughly synonymous to positive self-fulfillment. Among them are self-realization, self-actualization, individualism, appropriate striving, and others.[1] Each conveys, in the individual author's context its approximation of the individual human being's will to "be"; his will to be an autonomous integral conductor of his own existence toward and into some sensed, inferred, or specified Optimum Human Condition.

Our contemporary national scene offers a great range of opportunities or "work stations", so to speak, for individual pursuit of self-fulfillment. There is an extensive supply of holes; round, square, triangular, and variations thereof. The individual's first problem is one of goodness of fit compounded by the upward mobility impulse seemingly inherent when opportunities exist within a value continuum. A second major block to self-fulfillment stems from the absence of adequate definitional clarity of a given "Optimum Human Condition." Ambiguity is cumulative as one moves downward into a derived functional value continuum, i.e., the more specific and exclusive are one's value positions the more likelihood that internal inconsistencies will exist. Controls and expedients which bring the self-fulfillment concept into harmony and concurrently help clarify the "Optimum Human Condition", lie within a number of supportive conditions.

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[1] Note that such terms used in this paper have not been considered synonymous but rather have been given specific connotations in context.

Among these supportive conditions are two foundations upon which self-fulfillment must be built. Rational identity - who and what am I physically, emotionally, intellectually, socially, spiritually, etc. - must play first chair. Identity in this context takes into its meaning the many dimensions expressed through the terms self-concept, self-image, phenomenal self, and others.

Rational identity is taken as an umbrella concept which covers a number of subtle distinctions between the latter terms. It might, most easily, be defined by the conditions present in a highly developed rational identity. Such an identity would exist as a consequence of maximum verifying confrontations within self, and between self and the external world of states and events. That is, the individual would have tested, to the functional limit, the body of values, opinions, physical and intellectual abilities, etc. which constitute his "self." The condition implies a high degree of consciousness and self-generated behavior facilitated by command of a number of enabling tools and situations which have been postulated on succeeding pages.

The second foundation may be simply labeled, "Protection". The life span of the living organism must be replete with conditions and features with the primary function of filtering out or minimizing the impact of forces dilatory or destructive to one's rational identity and physical self. A significant portion of the events from which the Optimum Human Condition might be inferred possess the "protective intent" as a common denominator.

Development of the preceeding foundations demand four conditions. They may be summarily stated as:

A. Conditions which permit and encourage positive, rational self-determination. The qualifiers, positive and rational, are imperatives; negative pursuance of self-determination must necessarily result in diminution of freedom to exercise self-determination and irrationality would lead to self-negation through fantasy. The youth must learn the nature and qualifications of this and the adult must perpetuate the conditions.

Self-determination is the state of an individual when he possesses command of a reasonable life space. The degree of possible self-determination then becomes a function of the kind and extent of alternatives available. In large, this is the field on which rational identity may be won; it is the condition which makes appropriate striving possible and significant.

B. Conditions which permit and encourage acquisition of knowledge. Not only must data sources be at least minimally accessible but the skills and tools requisite to perception must be developed and sharpened. If the individual is to exercise rational self-determination and exploit the life space available to him he must develop the appropriate acquisitive and interpretive techniques. The antithesis to this condition lies in censorship and highly restrictive educational systems.

The outcomes expected from this optimized condition would be essentially connotive and affective outcomes of the third condition below.

C. Conditions which permit and encourage the acquisition and refinement of methods of expression. Both the means of objectifying ideas and emotions, and of making appropriate responses to stimuli of all classes are encompassed here. The broad realm of expression is one of the individual's major means for testing his identity and productively interacting with his environment.

D. Conditions which are conductive to biological and psychological homeostasis, and amenable to transistasis. Essentially this suggests a minimally supportive and vertically open ended life space. A minimum level of primary needs satisfaction appears as a categorical imperative for continuous development of human capacities and talents. Extended deprivation (and possibly extended satiation as well) in any primary need area tends to narrow the individual's field of activity and reduce his ability to cope. A distinction must be made, at this point, between extended and temporary deprivation - the latter may act as a local stimulant in contrast to the generalized inhibiting tendency of the former.

In a very fundamental sense a minimally supportive biological homeostatic condition may be exemplified by an individual's conduct concerning shelter. A minimally supportive solution in the Upper Midwest must include not only roof, walls and supplementary heat source but must also meet a number of social dictates. If the social dictates are not met the solution ceases to be psychologically supportive and may, indeed, reduce to a biological deprivation-survival level as the adequacy of "roof and walls" declines. An ascendant solution, however, becomes supportive in several directions. More than adequate satisfaction of the social dictates tends to enhance and reinforce the individual's identity, expand his life-space, and in general encourage continuance of the transistasis process.

Amenability to transistasis simply implies the existence of conditions which permit an individual to rationally aspire to and reasonably attain increasingly adequate homeostatic levels. Obviously, beyond a point, the homeostatic reference becomes essentially psychological.

Just as obvious is the fact that there is a point of diminishing returns inherent in this concept of increasing adequacy or vertically open ended life-space. Given specifics, a point might be hypothesized at which the psychological return no longer justifies the investment. Continued investment simply avoids regression to a lesser but fundamentally adequate homeostatic level.

The contributory function, of the preceding four enabling conditions in relation to the initially assumed goal would be maximized to the degree that they were pursued within an:

A. ordered and responsive physical environment.

B. ordered and responsive social environment.

Maintenance of the "Optimum Human Condition" and productive involvement in its subordinate enabling conditions demand predictability and feedback reflected in "A" and "B" above. Rational behavior is founded on data, assessment, and a probability decision concerning outcomes of initiatory and respondent acts. A good case may even be built for the assertion that random or irrational behavior derives from the same process pursued subconsciously.

In Summary

Many of the forgoing propositions represent statements of faith far more than of verifiable fact. The large church, of sometimes illustrious and even academically canonized personages, which espouses the faith provides an authoratative credibility. The reader is reminded, albeit unnecessarily, that the propositions have been posited on the strength of such credibility and not as a group of irrefutable axioms. The "Optimum Human Condition" concept has been cast in an evaluative frame of reference in another document[1] however, and has not been offered here without previous critical review.

Short of rewalking the route it may be useful to draw the positions stated in Part I into a summarizing thought. Curriculum development projects which proceed without adequate awareness of and reference to a comprehensive and explicit value foundation must fall victim to distortion from internal biases and incongruities. The value stance taken in this proposal is simply that man is the only legitimate holistic reference. He has been posed as being capable of, in dire need of, self-definition and integration; capable of consciously altering his behavior toward recognizable goals. A massive assumption has been made that mankind, as such does strive toward, within the qualifying limits of time and place, a common human condition. And finally it is the function of curriculum to facilitate that effort through whatever media the curriculum agency has adopted for its pursuit of a lesser educational task. The medium at hand, in this proposal, is a cluster of occupational roles to which we will address young men and women for the purpose of becoming teachers. In this context it is the aim of faculty, via the medium and allied methodology, to help develop competent teachers.

Part II: The Base Model

Under the general conceptual position taken in Part I twelve expectations have been stated as criteria for a satisfactory Industrial Education (Occupational Education) teacher education curriculum. Need for considerable additional clarification of each will not be denied; however, adequate interpretation will be assisted by conscious reference to the posture taken in Part I.

Twelve Expectations

The curriculum model should provide a pattern of organization and direction which will:

1. Establish/reinforce a "human development" orientation. Development of

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[1] Randleman, Robert R., "A Cooperative Research Proposal Prepared for the Second Meeting of the Five-State Occupational Education Research and Development Planning Conference." Manuscript, May 19, 1967.

healthy, self-fulfilling human beings is the first cause of democratic education. The primary role of the teacher is to guide students and organize and conduct learning experiences which embody that intent.

2. Exploit the self-concept and role-definition process of the teacher-in-training to the end that his effectiveness in his primary role will be maximized.
3. Develop teachers of differentiated secondary role competencies. Differences in personal predispositions of teachers-in-training and in depth, and nature of competencies needed in in-service roles must be used as guides to individual programs.
4. Exploit the differentiated learning rates of individuals. Distinctions must be made between acceptable quality and quantity in the program of teachers-in-training and the pace at which the program requirements may be satisfied. Recognition must be given to both intellectual capacity and the human development model pattern of the student.
5. Capitalize on the entry level competencies of students. This implies recognition of competence in areas other than simply the technical.
6. Emphasize development of both a psychological and sociological perspective of education.
7. Encourage and provide opportunity for optimal development of knowledgeable self-determination within the program context.
8. Provide for vertical continuity and openness in the Industrial Education teacher education program.
9. Recognize and provide for variegated horizontal applications of the industrial education core competencies. Preparation of educational personnel who fit positions other than those traditionally viewed as industrial arts or vocational teacher must be accounted for in the curriculum.
10. Establish self-regenerative systems which will demand continuous upgrading and up-dating of educational experiences and content.
11. Establish the widest possible operational base within the teacher education institution.
12. Develop and exploit intro-community relationships and responsibilities for teacher education.

Out of these expectations has come a general curriculum model under which enabling programatic patterns may be established.

Survey of the Base Model

Figure 3, "Base Model", presents a generalized PERT type graphic representation of the proposed curriculum model. Block one represents the entry or initial input stage in which nine inclusive categories have been identified. Contemporary conditions and the identification of emerging needs in the broad field of occupational education have rather adequately isolated input categories and suggested some tentative, non-inclusive, output personnel classifications. The nine input categories are:

1.1 - College sophomore transfer - non-differentiated advanced standing program

1.2 - College transfer - advanced standing in related major

1.3 - Trade competent - initial registration

1.4 - Trade competent - with advanced standing

1.5 - Vocational program graduate - initial registration

1.6 - Vocational program graduate - with advanced standing

1.7 - Degreed transfer - education major

1.8 - Degreed transfer - technical major

1.9 - Degreed transfer - general

The second block simulates a cluster of general education experiences through which college level academic competence may be verified. Several functions are represented within the third block or Survey Level: among them are introduction to teaching roles, diagnosis of dominant educational interests, individual program development, sensitivity development, and orientation to program systems. The Foundation Level, block four, may be fundamentally equated with preparation for junior high school level teaching positions and includes technical, related and supporting studies and practicum experience consistant with teaching competency associated with the early adolescent age group. Block five advances the age level continuum begun in the preceding stage. Labeled the Specialist Level, its attendant expectations are depth in selected technical area, and related and supporting studies directed toward secondary level industrial arts and vocational education instruction. Block six, with further extension of technical competence and appropriate variation in related and supporting studies, presents a secondary-post secondary vocational teacher education level.

A terminal point occurs at the seventh block or Certification Level. Three basic and three subordinate certification categories tentatively comprise the level. The former are: (1) industrial arts certification with junior high school recommendation, (2) industrial education certification with special area recommendation, and (3) vocational teacher certification - area specified. Three rider outputs may attach to the base categories; certification for employment in manual arts therapy, in supervisory and instructional capacities in occupational training and rehabilitation workshops, and in trade and industrial coordinator internship programs.

Review of Figure 3 will indicate ten major tracks, through the several levels, funnelling into the three base certification categories. This diagramatically reflects some partial satisfaction of initial model expectations concerned with development of differentiated abilities, capitilization on entry level competencies, and opportunity for self-determination within program.

Block eight and eleven represent intermediate and terminal employment levels, funnelling into the three base certification categories. This diagramatically reflects some partial satisfaction of initial model expectations concerned with development of differentiated abilities, capitilization on entry level competencies, and opportunity for self-determination within program.

Block eight and eleven represent intermediate and terminal employment levels; the former assumes subsequent certification extension work while the latter maintains relative function stability. Continuing tracks for certification extension or recertification at the post graduate level lead through blocks nine and ten but may not be construed to exclude the opportunity to recycle into a precertification level should output goal be redefined by an individual.

Development of Goal Gradients

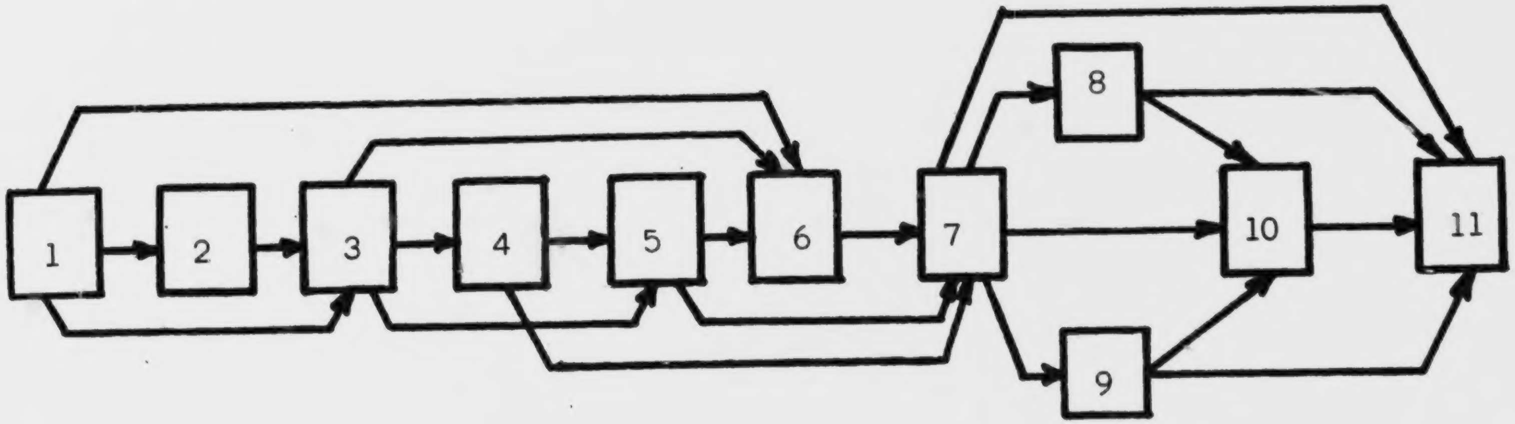
Maximum specificity must be attained in identification and objectivization of both input and output category characteristics prior to establishment of goal gradients between levels. The multiple-track system represented in the base model no more than alludes to the functional complexity of goal gradient points within any given track.

Consistent with the general model approach in this paper the problem of goal gradient definition will be considered in Part III in the context of postulated program sub-systems. Some ten sub-systems will be briefly identified which constitute high probability vehicles for the development and execution of behaviorally defined goal gradients implied in the initial model expectations.

Part III Facilitating Sub-systems

Competencies Evaluation Program: Fundamental to the implementation of the curriculum model is an evaluation program which will satisfy, to a relatively adequate degree, three criteria: (1) provide efficient assessment of entry level competence in the three behavior domains, (2) intimately involve the individual student in an outgoing process of behavioral change assessment, and (3) produce an objectively couched profile, at the various curricular levels, of the range and strength of competencies accumulated.

Student progression through goal gradient will be controlled by degree of attainment of comparative standards, implicit within the evaluation program, differentially considered in light of the individuals entry category and output goal requirements. It must remain functional of instructor/adviser personnel to minimize (or hopefully eliminate) the go/no-go qualities inherent in evaluation systems.



1. ENTRY
2. GENERAL EDUCATION
3. SURVEY
4. FOUNDATION
5. SPECIALIST
6. VOCATIONAL
7. CERTIFICATION (Initial Output)
8. INTERMEDIATE EMPLOYMENT
9. POST GRADUATE PROGRAM (Certification Extension)
10. POST GRADUATE PROGRAM (Recertification-Terminal Output)
11. TERMINAL EMPLOYMENT

Figure 3
Base Model

Technical Clusters: The technical cluster provides both a format for content and a physical plant organization. An obvious imperative exists here in the need to develop/acquire materials which clarify the extent and structure of the separate clusters, demonstrate the structural interset among clusters, and specify the structure of structures subsumed beneath the cluster complex. A large degree of educated arbitrariness may be expected as this problem is pursued.

Technical Cluster Area Team: Three supportive conditions are sought through the Area Team structure: (1) a flexible diversity in the teaching capabilities associated with the technical cluster, (2) a controlled staff turnover which tends to encourage currency of technical exposure and minimize discontinuity in staff structure, and (3) a vehicle for the coordination and integration of multiple facets within the cluster

A simple graphic example is shown in Figure 4 , "Area Team Organization." The organizational diagram adequately reflects a pronounced and desirable active involvement of both undergraduate and graduate personnel in the ongoing teaching structure.

Peer Group Team/Learner Team: To provide the open learning environment demanded by the multiple track-individualized program characteristic of the model it becomes imperative to establish flexible, mobile student units. The Peer Group Team (5 to 8 members) is viewed as indigenous to the Survey Level; its function is to provide a group security learner cell and promote opportunity for maximum individual interaction and visability. Peer Group Team participants would possess the common attribute of being newly exposed to the functional adaptation of the model curriculum.

Learner Team (2 to 8 members) composition differs from the PGT on the basis of team member selection. Functionally the LT serves the same purposes but constitutes itself on the basis of common content units concurrently undertaken by members irrespective of program level or output goal. Both team patterns would displace, to a large degree, the traditional class organization.

Instructional Materials and Methods Center: Facilitation of the individual/small learner group mode will be dependent, to a large extent, upon availability of an adequate and accessible data source. The library/audio-visual combination stereotype of a materials center is inadequate. The IMMC concept posed here expands into a facility which acts as depository for the widest possible collection of instructional materials, a site for exposure to those materials, a laboratory for revision or development of materials and processes by students and faculty, and a location for practicum experiences in instructional technology.

Content Unit Module: In recognition of the maximally individualized program pattern implicit in the curriculum model, content would be unitized to facilitate flexible program development and support sound learning practices. Multiple treatments of units technically, organizationally and methodologically would be expected as a means of accounting for learning styles and rates.

Seminar Program: Random occurrence and frequently deferred relevance of

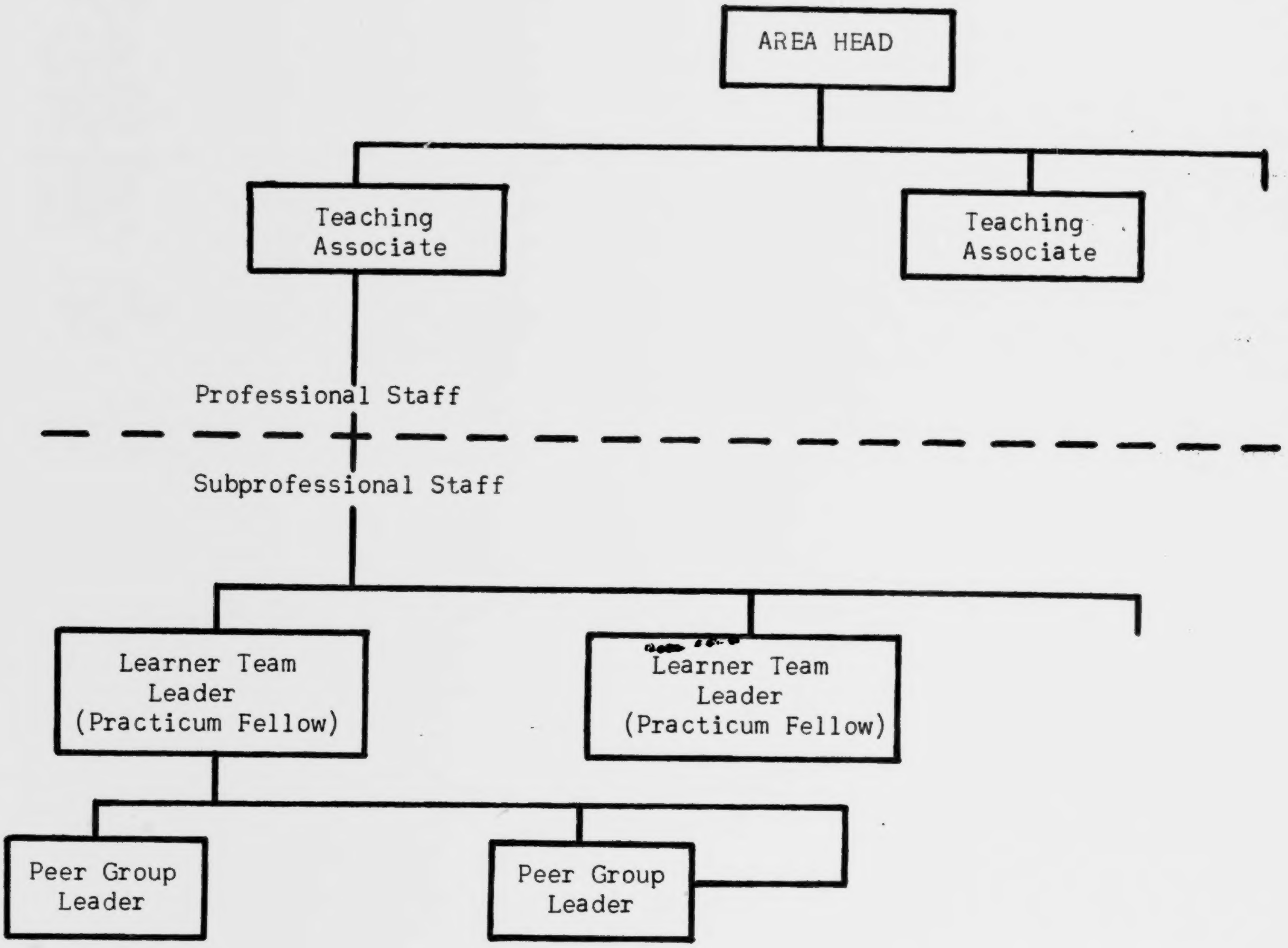

AREA HEAD
Teaching Associate
Teaching Associate
Professional Staff
Subprofessional Staff
Learner Team Leader (Practicum Fellow)
Learner Team Leader (Practicum Fellow)
Peer Group Leader
Peer Group Leader

Figure 4

Area Team Organization

blocks of content traditionally labeled "general education" has stimulated conception of a supplementary approach aimed at maximizing the pedogogically oriented impact of such content. The Seminar Program presumes to present a curriculum model goal-oriented setting for the interpretation, internalization, and application where possible of related and supporting studies content. The enabling device presupposes availability of both intra- and inter- disciplinary personnel who will, as a "call staff" on a reasonably flexible schedule, provide seminar leadership, consultant, and advisory services.

Participating Observer/Practicum Program: Beginning in the Survey Level and continuing, with notable modification, to the Certification Level, a series of variegated exposures to individually appropriate education scenes are proposed. The range within the experiences might be expressed as extending from brief and limited function teacher-aide assignments to concentrated, major responsibility instructional assignments. Number, kind, and intensity of these experiences would be, hypothetically, a function of the individual's goal, program pattern, and level of specific competencies. This program would be expected to serve a secondary function as an avenue for exposure to sociologically, psychologically, or physically distinct populations relevant to special output goal-orientations of individual students.

Cooperative Work/Study Program: Emphasis would understandably be placed on three functions of the W/S program. It would be exploited as an opportunity for realistic work experience technically and socially. Secondly, controlled assignment and supervision, in conjunction with special seminar, could result in an effective practicum exposure to business and industrial organization and systems. Finally, taken in the context of an integral program W/S experience would provide a vital data source for program units concerned with self-awareness and sensitivity development.

Sensitivity Training Group: Ongoing opportunities for participation in T groups would recognize three objectives: (1) increase interpersonal awareness, (2) improve communication consciousness, and (3) clarify the individuals self-image and its impact on others. Taken as part of the pattern including the Competencies Evaluation Program and pursued cooperatively with available units of the educational psychology and guidance organization, a mutually valuable instructional program could be evolved concurrently with the satisfaction of the model requirements.

Afterthoughts on Forethoughts

The forgoing discourse, for all its brevity, contains the major elements of an industrial teacher education model with tentative inferences toward implementation. An apparent thread throughout has been a concern for the development of integral self-directing individuals capable of coping effectively with, selected phases, at least, of the total educational environment. The mode of attack suggested has been one of consciously posed individually relevant confrontation situations consistant with an overriding value orientation. The primary assumption has been that self-clarification, involvement in relevant reality testing situations will significantly contribute to development of authentic and thoughtful behavior - a categorical imperative in effective educational leadership.

Co-operative Occupational Pre-teaching Experience Program

A Paper Prepared For

The Invitational Conference
On Vocational Teacher Education In
the Upper Midwest Region

May 13 - 15, 1968

Rationale: The advisory committee for the conference felt that the model programs represented by these four presentations were worthy of consideration at this conference for possible implementation in other teacher education programs. It was not the intention to have representation of all the vocational areas being served, but rather to look at the methodology and organization of the model programs for adaptation in other institutions and vocational service areas. A close examination of these several models would reveal a number of practices or innovative ideas which could be combined in another teacher education program. Out of four models, some general concepts about vocational teacher preparation were evolved.

By Albert J. Pautler, Director
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Rutgers - The State University of New Jersey, is a unique institution which combines some of the features of the principal types of institutions which have given American higher education its peculiar diversity--the colonial classical college, the land-grant college, and the state university.

Founded in 1766 as Queen's College, Rutgers was the eighth college in the colonies. Its sponsorship by the Dutch Reformed Church, formally discontinued in 1864, was typical of the times when most colleges were established by religious groups.

In 1945 the State Legislature extended the designation of "State University" to all units of Rutgers. In 1946, an urban complex, the University of Newark, was merged with Rutgers, and in 1950, the College of South Jersey at Camden became a part of the State University. With research units and experimental farms scattered from Sussex (northern) to Cape May (southern) counties, Rutgers extends its influence to all part of the State.

The Department of Vocational-Technical Education was founded on July 1, 1963 and established formally as the fifth Department of the Graduate School of Education. This Department was made possible through extensive exploration and planning with the State Department of Education, Division of Vocational Education.

The Graduate School of Education is located on the New Brunswick campus of the university. New Brunswick, which is the core of Central New Jersey, is surrounded by many towns with a total population of over 500,000. Located in the center of the largest Metropolitan area in the United States, New Brunswick is 30 miles southwest of New York City and 60 miles northeast of Philadelphia. Combined with New Jersey's own prominence as a major market, the three areas represent a closely combined trade zone of 18 million people. A radius of 250 miles covers a 12-state area which many companies serve from plants in New Jersey. Over 50 million people--one-fourth of the United States' population--work and buy in this region.

PROGRAMS AVAILABLE:

The Department offers courses and programs leading to certification, as well as degree programs. Degrees granted include the Bachelor of Science, Master of Education and the Doctor of Education.

Undergraduate programs are available in agricultural education, home economics, trade and industrial education, and technical education.

Programs on the Master's level are available in agricultural education, business education, distributive education, home economics, technical education, vocational trade and industrial education, and vocational co-ordination and supervision.

The highlight of each Master's program is the Master-Teacher Externship. Externships are "tailor-made" to meet the individual needs of students and are provided through the co-operation and co-ordination with industrial, business, research concerns, as well as public agencies. The period of the externship may vary from three to six weeks in length, for which the extern will receive graduate credit at the rate of one credit per week of the externship.

The Vocational-Technical doctoral curriculum consists of four groups of courses and/or experiences as follows: Core, Selected Area Coursework, Internship and Dissertation Study. The full details of this program are available in the Department bulletin, Doctorate in Vocational-Technical Education. A brief schematic of the Vocational-Technical Doctoral Major follows.

The previously stated material was presented to better acquaint you with Rutgers, the Department and the programs available in the area of Vocational-Technical Education. In addition, background material concerning the location and factors of industrial growth and development are of serious concern in our specialization. The most recent and most innovative undergraduate teacher education program at Rutgers is the COPE program.

CO-OPERATIVE OCCUPATIONAL PRE-TEACHING EXPERIENCE

The Department of Vocational-Technical Education of Rutgers - The State University, through University College, has developed a second track for a new source of teachers for vocational (trade and industrial) education. This particular program is designed to provide high school graduates, primarily from vocational and industrial arts education programs, as well as technical institute graduates, with an opportunity to combine co-operative work experience (COPE) in his chosen trade or occupation with an approved academic program. Upon satisfactory completion of the prescribed program, the individual will receive appropriate teacher certification and will have earned the Bachelor of Science degree.

The co-operative aspect of the offering and the formal University program are compatible in that University College courses are offered in the late afternoon and evening, leaving the student ample time to work in industry. The student is required to accrue a minimum of 5,000 hours of approved work experience, under supervision of the COPE co-ordinator, in his trade. Time spent learning the trade in either the high school or technical institute programs would be counted toward the 5,000-hour experience requirement. The student, upon completing his minimum experience requirement, will be required to pass an occupational competency examination for which he will receive 12 credits.

The first 60 hours, or approximately three years, are devoted to the basic requirements and liberal arts courses. At the end of this three-year period, the student will meet with the vocational education screening committee for a review of his academic and work experience records. With a favorable recommendation, he may begin taking vocational and professional education courses.

VOCATIONAL-TECHNICAL DOCTORAL MAJOR

CORE
18 HOURS

WITHIN THE 30 MASTER'S CREDITS AND THE 18 CORE CREDITS, A MINIMUM OF ONE COURSE IN EACH OF THE FOLLOWING 6 CORE AREAS MUST BE TAKEN:

1. VOCATIONAL-TECHNICAL EDUCATION
2. EDUCATIONAL FOUNDATIONS
3. PSYCHOLOGY
4. SOCIOLOGY
5. ECONOMICS
6. RESEARCH METHODS

SELECTED AREA COURSEWORK
18 HOURS

EMPHASIS IN ONE OF THE FOLLOWING AREAS:

1. ADMINISTRATION
2. RESEARCH
3. COLLEGE TEACHING

INTERNSHIP
6 HOURS

DISSERTATION STUDY
12 HOURS

University College is the evening degree granting College of Rutgers. Classes are only conducted in the evening, which makes it possible for a COPE student to work a full-time job during the day and attend classes in the evening. A student may register for nine credits per semester. A nine credit load would require the student to attend class two evenings per week.

University College conducts classes in five different areas of the state. Classes are offered in Camden, Jersey City, Newark, New Brunswick and Paterson. Students register at the local division where they will take their course work.

Students are first required to be accepted by University College and then must appear for a personal interview with the director or assistant director of the program. Applicants from the most recent high school graduation class are required to take the Scholastic Aptitude Test of the College Entrance Examination Board. Applicants who have been out of high school for at least a year are not required to take the SAT. The requirement for entrance of these students is graduation in the upper 3/4 of their high school graduation class. Requirements are fair and the individual is given every consideration possible by University College.

Scholarships of $100 per term for the first year are available. This money will cover the cost of tuition and fees for a total of six credits per term. The scholarships are made available through a three year grant from the Ford Foundation. The Ford Foundation funded the project for a three year period (July 1, 1967 - June 30, 1970) in the amount of $67,800. The grant was received to help start the program and encourage minority group individuals to enter the field of vocational-technical education as teachers.

Students who start the program without any transfer credit, will require approximately six years to complete the B.S. degree requirements. It is possible, under present New Jersey certification requirements, that a COPE student would be able to enter vocational-technical teaching before completion of the B.S. degree. When a student has been employed in his specialization for the number of years required by certification, he might want to start teaching and finish his COPE degree program at the same time. This is entirely possible within the structure and organization of the program.

A student may pursue a specialization in any one of the recognized trade or industrial areas offered in the secondary or post-secondary programs of the state. Advisement is important due to the length of time required to complete the program and the requirements needed by teachers of the future. Consideration of new offerings and discontinuation of some present offerings are carefully considered in advising students. We attempt to be as accurate as facts and figures indicate concerning future trends in vocational education.

The co-operative work aspect of the COPE program is based upon 5,000 hours of supervised work experience in the trade or occupational specialization the student is preparing to teach. The 5,000 hours is equal to about 30 months (2 ½ years) of full-time employment. Credit is not given for the 5,000 hours of supervised work experience per se. The supervised work experience allows the student to register for the occupational competency examination in his specialization. Twelve credits are granted for successful completion of the competency examination. The examination is part written and part practical in nature. Hour-for-hour clock time is granted toward the 5,000 hours, for students who graduated from a vocational high school specialization or a post-high school program. Completion of the COPE program results in certification and the Bachelor of Science Degree.

Since the program started only within the past year, it is much too early to evaluate the program at this time. It will take between four and five years before the first student will be graduated from the program. It is planned that an evaluative study will be undertaken after a number of the COPE graduates enter vocational-technical teaching.

At this point in time, it appears safe to say that the basic idea is workable. The idea of a co-operative experience in industry, combined with a university program should provide another source of vocational-technical teachers. The final product, we hope will be unique in a number of ways. First, the new teacher would have completed and received a B.S. degree. Second, the new teacher would have successfully taken and passed an occupational competency examination. In addition, he would have had at least 30 months of supervised work experience plus, perhaps, at least another 30 months of employment in his specialization. Third, the new teacher could enter teaching at 24 or 25 and be able to move on to more advanced study. Under the more traditional approach, a person enters teaching after so many years of trade experience. Then, to obtain certification and much less a B.S degree is a tremendous challenge.

The COPE program is, or we hope will be, another source of vocational-technical teachers. Time will tell. We are attempting to keep accurate records and handle problems as they occur. But remember, it is one approach and, no doubt, we have room for many other programs.

Using the Clinical School Concept As the Core of Teacher Preparation And Development of Professional Personnel

A paper prepared for

THE UPPER MIDWEST VOCATIONAL
TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rational: The advisory committee for the conference felt that the model programs represented by these four presentations were worthy of consideration at this conference for possible implementation in other teacher education programs. It was not the intention to have representation of all the vocational areas being served, but rather to look at the methodology and organization of the model programs for adaptation in other institutions and vocational service areas. A close examination of these several models would reveal a number of practices or innovative ideas which could be combined in another teacher education program. Out of four models, some general concepts about vocational teacher preparation were evolved.

by Dr. Peter G. Haines
Professor of Business and
Distributive Teacher Education
Michigan State University
East Lansing, Michigan

The opportunity to address you at a conference sponsored by the University of Minnesota, is for me personally a great privilege. This old and fine institution has demonstrated a continuing interest in being on the leadership edge, developing new concepts and testing them with leadership groups--this in itself is indeed reason enough to be privileged to be with you. But, of course there is another reason for my depth of pride and for my deep-felt desire to bring an important message to you--it is just short of five weeks, twenty years ago, that I was awarded the baccalaureate degree here with a major in distributive education. Like many another of you, and thousands of others, I started at the University firmly intending to be something else--my major was accounting--it was only when I was within a few credits of graduation that my experiences and my added maturity caused me to change my career goal. At this point, you could easily be asking if this is to be a recital of personal experience and a litany for the University of Minnesota. No, it is not either--rather it is a way of introducing my topic by demonstrating through personal example that career goals change and that teacher education programs which use the clinical concept can take advantage of the fact that there are those in the disciplines who decide to teach; the clinical concept can build on the experiences and professional training of those who are attracted to the teaching profession; the clinical concept can be the vehicle for engineering an individual program of professional experiences geared to the teacher-trainee's readiness.

THE SERIOUSNESS OF OUR PROBLEM

There is little need for me to go into a depth-recital of our problem--that of recruiting, training, and continuing to develop the sizable professional force which will undertake to solve this nations manpower problem. Nor is it necessary today to argue at length the questions of whether such desperate problems as civil rights and poverty can be solved by the efforts of vocational education. These questions have been, and will be investigated in depth and discussed in full at many another conference.

The seriousness of our problem in vocational teacher education is easily demonstrated at least on the surface; one has only to look at the vacancy notices to see the serious shortage of teachers, directors, supervisors, and teacher educators. Yet below this surface of vacancy lists lies our real problem which is both obscured and frustrating. Its visibility is evident--the faint bulk of the personnel deficiency is there for all to see. This very blurring causes frustration since we cannot quite see the extent of our problem nor clearly determine where the craggy problems jut out at us. At least as importantly, our pragmatic base of operational decision-making is offended, and we are frustrated, because the lack of clarity in the teacher education problem prevents us from coming up with clearcut solutions. And the very seriousness of the problem is yet another reason why the clinical concept of teacher education may very well be the professional solution which we are seeking. Why is this so? First, because there is obviously a problem of numbers and clinical training takes advantage of the resource pool of those who after successful experience in other occupations and professions can be recruited and educated for second-careers in vocational-technical education. Secondly, the clinical concept obviates our traditional emphasis upon homogeneous educational programs and is based upon a coupling of the individual's readiness with his professional goal. Thirdly, the clinical concept allows us the freedom to ignore somewhat the blurred dimensions of our problem, and allow the construction of individual educational experiences which flex as the environment is seen, because the environment of teacher education is not that of the University classroom but that of the school. And lastly, the clinical concept allows us to develop leadership by leaving experienced teachers where they are--in the vocational classrooms--without demanding that they return to our campuses for extended periods of continued education.

A WORD OF CAUTION

At this point I am sure that you are aware that my paper must be treated with caution for it is not based upon such a body of substantial research and empirical evidence that one can be positive. A good many of the papers at this conference report on types of clinical training programs and in keeping, this paper has been constructed from a series of experiences, beliefs, and readings. Its very purpose is in keeping with the nature of this seminar which is to highlight facts where possible, exhibit the best of professional thought and belief, and most importantly, cause each of us to want to think further, to experiment, and to change.

THE NATURE OF THE CLINICAL EXPERIENCE

Clinical experiences are not new to professional education; there is ample evidence of their use in many other professions such as medicine, social work, psychology, and architecture where the clinical environment has been used both for personnel training and for experimentation with technique and method. And, of course, Colleges of Education have long used the clinical environment for the controlled introduction of the teacher trainee to the challenges of the school and the classroom. Likewise in vocational education services we have used various types of field experiences as a means of teacher preparation, e.g., the agriculture senior summer experience. But, in Education the clinical experience has been perceived as an adjunct to effort rather than as a central core. What is suggested today is that the clinical experience become the heart, or core, of our teacher education and leadership development activities. And it is the fluidity of change, the mammoth need for vocational personnel, and the great variation in the structure of local schools and programs which brings us face-to-face with the need to determine if the clinical experience is to be our future in teacher education.

The clinical experience has several features or characteristics:

1. It involves the direct contact with the environment of the educational happening--the school, an agency, a collegiate instructional or research unit.
2. Observations and assessment of situation are directed on-site by full-fledged professionals who perceive and carry out the role as a trainer.
3. Study through readings, discussions, and formal courses are correlated with the experience.
4. The teacher education institution provides an accountable director of the experience who has direct and continuing control of the experiences.
5. The administration of the clinical environment is amenable to the experience and agreeable to altering the environment as needed.

In our Research and Development Program at MSU we indicated early that we perceived the clinical environment as being appropriate locus for curriculum development projects as well as training of personnel. In an early policy statement, the basic nature of the clinical environment was indicated as:

> The R & D Program is rooted in what is coming to be known as the clinical approach to teacher education and program experimentation. This approach utilizes the actual conditions of schools as a laboratory in which controlled experimentation may be accomplished. The clinical approach recognizes that theoretical constructs are tried out in the arena of professional practice in local schools while at the same time this try-out and testing is accomplished under controlled conditions. In this way evaluation can rest upon data which is as accurate as possible in a social environment.[2]

The quotation above emphasizes the use of the clinical laboratory for program experimentation, that is, strategies, structures, and systems. At that time this was the initial emphasis of the R & D. But it becomes increasingly clear that the clinical laboratory is a vehicle for efforts in vocational education of far wider scope. This scope is for a given institution probably limited only by its own perception of its role and by the breadth of its definition of the term Teacher Education.

BASIC PARAMETERS FOR CLINICAL EXPERIENCES

It appears that there are three basic parameters of professional teacher education activities wherein the clinical experience may be a tool of primary usefulness:

1. Program Experimentation -- development, testing, and refinement of the elements of programs which are strategies, structures, and systems of vocational education.
2. Basic Data Gathering -- accumulating through use of a definable galaxy of schools that data about student capacity, readiness, achievement, and aspirations which can serve as a basis for decision-making in vocational education.
3. Leadership Development and Teacher Education -- training personnel for initial job entry and for subsequent upgrading and advancement through programs of professional development.

At this point it seems wise to devote the remainder of this paper to a more full discussion of these three parameters of teacher education effort, outlining what might be.

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[2] A Developmental Vocational Education Research and Teacher Education Program Based Upon a Clinical School Concept, Final Report of Contract OE 5-85-111, East Lansing: Michigan State University, Research and Development Program in Vocational-Technical Education, College of Education, 1967. Page 3.

The Clinical School as a Base for Program Experimentation

By program experimentation we mean projects which involve the design and field testing of strategies, structures, and systems which produce outcomes leading to improved ways of developing occupational competence. The projects are basically conceived as a sequence of R^e --- D^r --- R^d which has the meaning of:

R^e --- basic research such as that of the aspirations of youth, the development of instructional objectives, devising and testing a motivation scale....plus ^{e} which is empirical evidence of what professional expertise in vocational education believes to be true as a result of their experience. It is desirable that this R^e factor be the base for the design of curriculum development programs.

D^r --- curriculum development programs which in using schools and classrooms as clinical sites both test and structure and systems of the project, and in cycle develop opportunities for further basic research.

R^d--- formal research such as that on adoption rates or achievement through controlled measurement of the outcomes of the curriculum development project, as well as further opportunities for curriculum development projects leading out of the research data.

In our R & D projects there is inherent the development and testing of methods, materials, and media. The try-out is controlled in pilot schools which (clinical sites) agree to follow a prescribed structure and teaching approach. The classroom teacher is conceived of as a research associate and given that title. This associate has either some teaching time set aside for his research efforts or is paid an honorarium for his energy increment. In either case the teacher-practitioner aids in the development of materials and methods and is a partner in evaluating and reporting.

Our efforts thus far in clinical program experimentation are crude; needed is the determination of how definitive can be the project director's manipulation of local conditions, his selection of environments which meet prescribed test conditions, and his control of the sequence and scope of classroom construction. But, the efforts this far suggest that teacher research associates are involved in a growth process, that the sites can be productive of both research data and new methods and materials, and that the clinical sites can become vehicles of change by acting as demonstration centers.

The Clinical School as a Source of Input Data.

In vocational education we know all too little about students, programs, outcomes, and other variables. While normative studies abound they represent at best some scattered efforts, often by graduate students whose individual problem selections are admirable. For example, there is almost no real evidence of how fast graduates in certain classes are able to type, nor is there large-scale data available about the reading achievement of vocational students in certain courses. In short, we know all too little about the inputs and the outputs of vocational programs.

What is suggested here is that there be established one or more clinical networks in which schools selected according to certain criteria would indeed form a continuing source of information. If certain "need groupings" could be identified, then a representative sample of schools could proceed at an assigned pace. Coupled with a computer, the clinical school would provide vocational teacher educators with a realistic and up-to-date data--a yardstick about "what is." Such data could be a great value in teacher training as well as in constructing simulations which would serve as the vehicles for leadership training sessions.

The Clinical School as a Base for Personnel Development

Teacher educators are probably most interested in the development of personnel, including pre-service training and in-service education. Here it is that the clinical concept may be most useful in developing and maintaining professional competence.

In its gross form the clinical concept involves the individual assessment of each candidate and the individualized planning or tailoring of a set of experiences based on readiness, capacity, and career goals. It is impossible in a paper of this length to describe the exact outlines of programs for various individuals in the various fields of vocational education and for their personal career goals. Practically speaking, this reporter does not have the capacity to prepare such a paper. What can be done here is to outline the basic nature of clinical experiences which should be considered in any personnel development program. Each of you can then try out the model to see if it is indeed the framework for programs which your institution needs.

Whether used for pre-service or leadership education, the clinical experience program ought to consider three basic areas: (1) Basic environmental experiences, (2) Fundamental professional competencies, and (3) Individual career goals. An example will be used to demonstrate these three frameworks--let's assume a doctoral candidate or master's candidate is interested in a leadership position whether in the broad field of vocational education or in a specialized field such as Industrial Education. Bearing in mind that the individual may present one of any number of diverse sets of background experiences, he is ready or not ready in any one of a set of categories. Initially, he must be the subject of a serious assessment program--a measurement which contemporarily is very subjective. Assuming that this assessment can be accomplished, the following clinical experience areas should be considered for him:

1. Basic environmental experiences -- These immersements are designed to provide him with background. Consider his need for short-term or long-term assignments which: (1) familiarize him with local,state, and federal administrative and supervisory function, which (2) give him insight into varying types of schools and training agencies, with programs designed for different age groupings, which (3) involve him in community agencies related to vocational education, and which,

(4) provide him insight into the principles and practices of the specialized fields of vocational education.

2. Fundamental professional competencies -- the candidate might need experiences in the following areas: (1) Instruction such as supervision of student teaching, undergraduate classes, advising, off-campus courses, summer workshops, (2) Service such as school curriculum studies, in-service conferences, community surveys, (3) Administration such as planning and budgeting, institutional committees, and preparation of new curricula, (4) Research such as assisting in data collection, analysis of data, computer services, and report writing, and (5) Writing such as reporting a school visitation, brochure, preparing a professional article, and designing a set of administrative forms.

3. Individual career goal competencies -- these are specific to the individual but the range is large and in general they are depth extensions of the fundamental competencies listed in #2 above.

The clinical site can be the focus of much professional development if careful individual assessment is made, a tutorial professor is employed to direct the experiences and care for reporting and evaluation of sessions, and experiences are controlled rather than allowed to happen.

SUMMARY--ARE WE READY FOR TEACHER EDUCATION IN THE EIGHTIES?

Teacher education in Vocational Education is, or ought to be, a carefully constructed amalgam of teaching, research, and service activities, supported by adequate allocation of resources, and utilizing a system of feedback resulting in established clinical school networks. It is no longer possible for vocational teacher education staffs to accept the built-in-time-lags which result from our attempting to construct on the one hand the standardized four-year teacher preparation programs which are a few years old before they are approved by the faculty, while on the other hand attempting piece-meal efforts to arrange and carry-out institutes, workshops, and research projects which are born of opportunity and of the minute.

Unfortunately, for our peace of mind, the world of vocational education, now unlike a few decades ago, involves so many diverse agencies, and institutions, and programs, that we must now seek the clinical environment as our base of operations. If this we do, ther we can at least have some hope of keeping up to date, for the clinical environment is "where the action is" and it will remind us daily that we must in teacher education be relevant and contemporary.

APPENDIX A

A Report of an Experimental Program [3]

An early project within the R & D was the Vocational Internship Project which was designed as an alternative route of preparing teachers for existing and emerging opportunities. A specific clientele other than the usual type teacher-trainee was the focus of the project. This group was composed of people who, currently in business or industry, possessed specialized, technical competence but no formal preparation for teaching in vocational programs. Some individuals possessed the Bachelor's degree while others did not. The project proposed to devise an avenue of appropriate occupational change; in effect, to build a viable and pliable avenue of social escalation into education.

The heart of this program was a legally responsible, contractual, semi-autonomous teaching assignment for the intern which would act as the context of the concurrently taught professional education curricula. This content was learned in seminars, classes, conferences, and independent study as well as through directed experiences.

The internship approach takes place on a clinical site - a school classroom which is part of a clinical school system. The latter is a secondary school district or an independent post high institution. In our project those clinical systems in a given geographic area were designated as a center where the internship staff was housed as an administrative unit. The center was directed by a university staff member titled as the Center Coordinator.

Out of our brief, initial experience we have come to certain conclusions and recommendations.

1. The internship is a viable means of assisting able and occupationally competent persons to make the transition to a teaching career. It has especially the advantages of (a) providing financial support during training for those who have fixed financial obligations and (b) reducing the time spent in full-time, continuing university enrollment prior to entry into teaching.

2. Support can be expected from school districts which are willing to provide (a) a salary for instruction performed (b) funds for support of the center including space, travel, secretarial and support services and instructional resources.

3. The internship provides the trainee with opportunities for a variety of directed experiences which can be planned in accordance with his individual needs. These experiences can be devised almost momentarily as new needs are perceived growing out of the intern's growth.

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[3] This material was briefed from an R & D publication, entitled The Professional Internship in Vocational-Technical Education, available from: Educational Publications Service; 202 Erickson Hall, Michigan State University, East Lansing.

4. Interns do not thrive on typical supervising teacher approaches but must have (a) the opportunity for individual decision-making while (b) having available the consultant help from a roster of practicing professionals in clinical schools, from their coordinator, and from university faculty in their area of specialization.

5. A concentrated professional pre-internship is necessary to serve as an acculturation process for candidates as they are exposed to the teacher-learning process, to prepare them in the basic skills of teaching, and to assist them in discovering their teaching "self".

   The pre-internship is a necessary step to assuring the faculty that the candidate is ready to function at least at a minimum level in the semi-autonomous role of a teaching intern.

6. A post-internship is highly desirable to (a) assist candidates in rounding-out their areas of professional or technical competence through formal course work and (b) to provide a period of in-depth assessment of their competence as teachers. (Note: it may be highly desirable that the post-internship should exist legally under university control until such time as the faculty are ready to recommend permanent certification.)

7. The Clinical Schools System and the teacher-training institution must each see themselves as full partners in the process of professional development and each must be willing to commit the necessary resources.

8. The Clinical Internship is not several things. It is
   ...not a crash program.
   ...not a way of filling classrooms with sub-standard teachers.
   ...not suitable for all types of teacher candidates.
   ...not an apprenticeship.

9. Solutions must be found to what may be the most vexing problem in recruiting occupationally-competent persons. This is the problem inherent in course and credit oriented institutions wherein occupational competence can be explicitly assessed and equivalency recognized by award of credit appropriate to degree and certification requirements.

Outlines of Remarks

For presentation at

THE UPPER MIDWEST VOCATIONAL TEACHER EDUCATION CONFERENCE

May 13-15, 1968

Rationale: The authorization of funds under the Education Professions Development Act was one of the major reasons for planning a conference. Many of the conference participants were in the process of developing proposals for expanding programs under provisions of the EPDA and needed assistance in interpretation of the provisions. Dr. Poppendick was sent by the Bureau of Educational Personnel Development to give this assistance and to consult with individuals who were writing proposals.

by Dr. Robert Poppendick
Director of Field Services
Bureau of Educational Personnel
Development
U. S. Office of Education
Washington, D. C.

U.S. OFFICE OF EDUCATION
BUREAU OF EDUCATIONAL PERSONNEL DEVELOPMENT

RELATED PROGRAM COORDINATION

1. Training in Librarianship--
   Title II-B, Higher Education Act

2. National Teaching Fellowships--
   Title III, Higher Education Act (Strengthening
   developing institutions)

3. Training programs for higher education personnel--
   Title V, Part E, Higher Education Act of 1965

4. Research and training programs for vocational education--
   Section 4(c), Vocational Education Act of 1963

5. State grants for vocational education
   Vocational Education Act of 1963

6. Strengthening undergraduate programs in international studies--
   Section 102, International Education Act of 1966

7. Adult education demonstration projects and teacher training--
   Section 309, Adult Education Act of 1966

8. State grants for adult education--
   Adult Education Act of 1966

9. National Defense Graduate Fellowships--
   Title IV, National Defense Education Act of 1958

10. Civil Rights training institutes--
    Section 404, Civil Rights Act of 1964

11. Grants for Teaching in the Education of Handicapped Children--
    P.L. 89-926

12. Financial Assistance to Local Educational Agencies for the
    Education of Children of Low Income Families--
    Title I, ESEA

13. Supplementary Educational Centers and Services--
    Title III, ESEA

14. Educational Research and Research Training--
    Title IV, ESEA (Cooperative Research Program)

15. Bilingual Education--
    Title VII, ESEA

U.S. OFFICE OF EDUCATION
BUREAU OF EDUCATIONAL PERSONNEL DEVELOPMENT

MAJOR PROVISIONS OF THE EDUCATION PROFESSIONS DEVELOPMENT ACT

TITLE V A-SECTION 504

Attracting Qualified Persons to the Field of Education
Funds to: Various agencies, by management
For: Identifying and encouraging youth*Publicizing career opportunities*Encouraging qualified persons*Encouraging persons from other professions
Appropriation Request: $1,500,000

TITLE V B-1 - SECTIONS 512-17

Teacher Corps
Focus: Areas with concentrations of low-income families
Funds to: States, districts, institutions
For: Strengthening educational opportunity*Attracting and preparing teachers*Improving teacher education
Appropriation Request: $31,000,000

TITLE V B-2 - SECTIONS 518-20

Attracting and Qualifying Teachers to Meet Critical Teacher Shortages
Funds to: State education agencies
For: Attracting persons into teaching and providing training*Obtaining teacher aides
Appropriation Request: $15,000,000

TITLE V C - SECTIONS 521-28

Fellowships for Teachers and Related Educational Personnel
Funds to: Institutions of Higher Education
For: Teacher Fellowships Serving:
Pre-school*Elementary school*Secondary school*Adult education*Vocational education
Appropriation Request: $43,500,000

TITLE V D - SECTIONS 531-32

Funds to: States, districts, institutions
For Training or Retraining: Teachers*Teacher trainers*Supervisors and administrators*Educational services personnel*Teacher aides affecting all subject areas
Appropriation Request: $53,500,000

TITLE V E - SECTIONS 541-43

Training Programs for Higher Education Personnel
Funds to: Institutions of higher education
For: Training persons who are serving or preparing to serve as teachers, administrators, or educational specialists in institutions of higher education
Appropriation Request: $15,000,000
Administered by: Bureau of Higher Education

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

EPDA PROGRAM CONTACTS

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Program Administrator Louis Venuto rm 4671 ROB	33896
DIVISION OF COLLEGE SUPPORT	
Director Willa B. Player rm 3074 ROB	20205
Assistant Director Calvin Lee rm 3074 ROB	23034

Program Schedule

Sunday, May 12

8:00 to 10:30 p.m.	Registration - 2nd Floor Lobby

Monday, May 13

8:00 a.m.	Registration - 2nd Floor Lobby
8:30 a.m.	Opening Session: Chairman, Dr. Jerome Moss
9:00 a.m.	Speaker: Dr. David Allen
10:30 a.m.	Coffee
10:45 a.m.	Chairman: Dr. Henry Borow Speaker: Dr. L. V. Rasmussen
12:30 p.m.	Luncheon
1:30 p.m.	Chairman: Dr. Richard D. Ashmun Speaker: Mr. Ray V. Johnson
3:00 p.m.	Coffee
3:15 p.m.	Chairman: Dr. Gordon Swanson Speaker: Dr. Richard Lawrence
6:00 p.m.	Dinner
7:30 - 9:30 p.m.	Workshop Sessions Group I Leader: Dr. Robert Driska Group II Leader: Dr. Norman G. Laws Group III Leader: Dr. David Pucel

Tuesday, May 14

8:30 a.m.	Reports on Workshop Sessions Chairman: Dr. Mary Klaurens
9:00 a.m.	Chairman: Dr. Emma Whiteford Speaker: Dr. Lorry Sedgwick

Tuesday, May 14 (cont'd)

10:30 a.m.	Coffee
10:45 a.m.	Chairman: Dr. Howard Nelson Speaker: Dr. Robert Randleman
12:30 p.m.	Luncheon
1:30 p.m.	Chairman: Dr. Ray G. Price Speaker: Dr. Albert Pautler
3:00 p.m.	Coffee
3:15 p.m.	Chairman: Warren G. Meyer Speaker: Dr. Peter Haines
5:00 p.m.	Adjourn - The time on Tuesday evening is available for "Special Interest" or "State Groups" to hold meetings or to attend the Twins-Oakland Baseball Game.

Wednesday, May 15

8:30 a.m.	Chairman: Robert Van Tries
10:00 a.m.	Coffee
10:15 a.m.	"Questions and Answers on EPDA"
11:30 a.m.	Luncheon
1:00 p.m.	Workshop Sessions Group I Iowa Group II Wisconsin Group III North Dakota and South Dakota Group IV Minnesota
2:00 p.m.	Coffee
2:15 - 3:00 p.m.	Final Session Chairman: Dr. Mary Klaurens